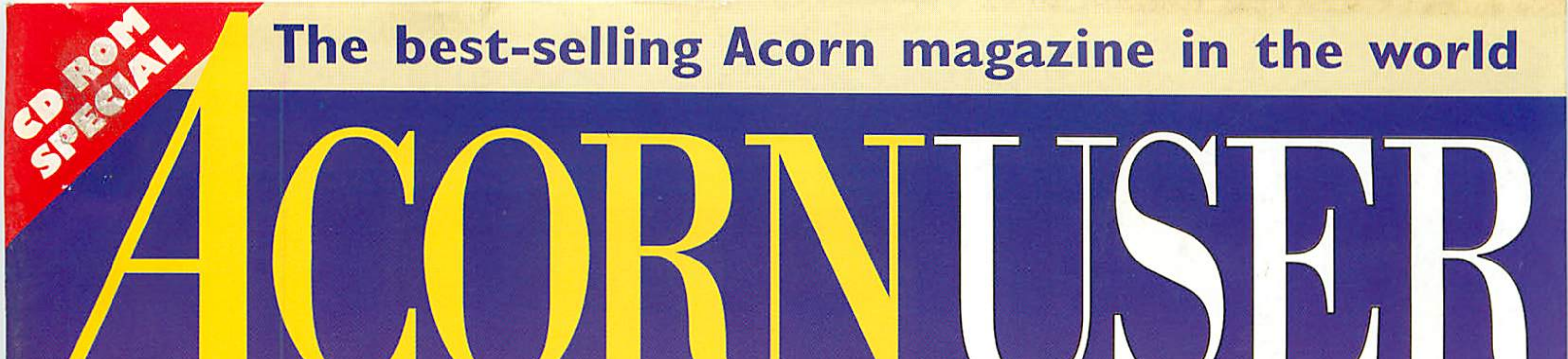
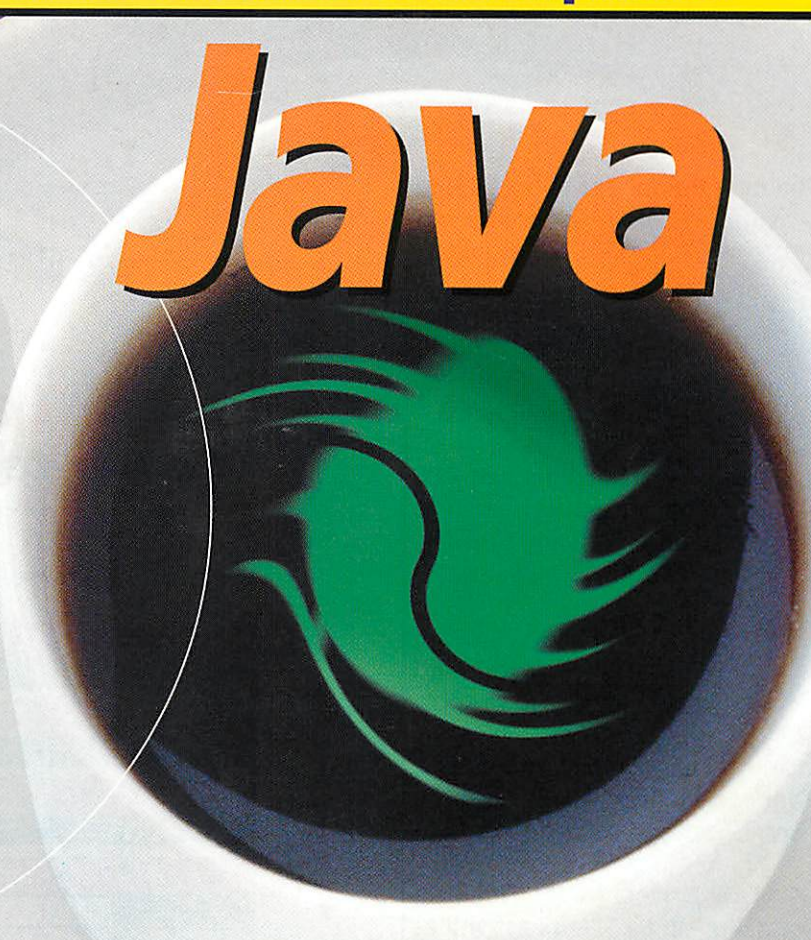
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Java

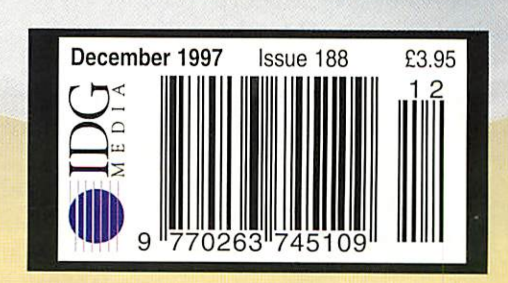
The Strong Stuff

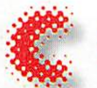
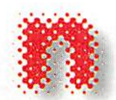
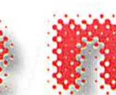
AUCD3

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- Free Internet access
- More on fonts
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Next month in **Acorn User**

We look at the Risc TV upgrades; compare the available SCSI cards; Sibelius 7.5 revealed; the real risks of Web sites; and the hidden truth about UFOs and weird science.

Next issue on sale 27 November 1997

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Member of the Audit Bureau of Circulation. *Acorn User* is an independent publication and Acorn is not responsible for any of the articles in this issue or for any of the opinions expressed.



Published by IDG Media Ltd,
Media House, Adlington Park, Macclesfield SK10 4NP
e-mail aueditor@idg.co.uk
http://www.idg.co.uk/acornuser/
Tel: (01625) 878888 Fax: (01625) 850652
Printed by Apple Web Offset, Warrington

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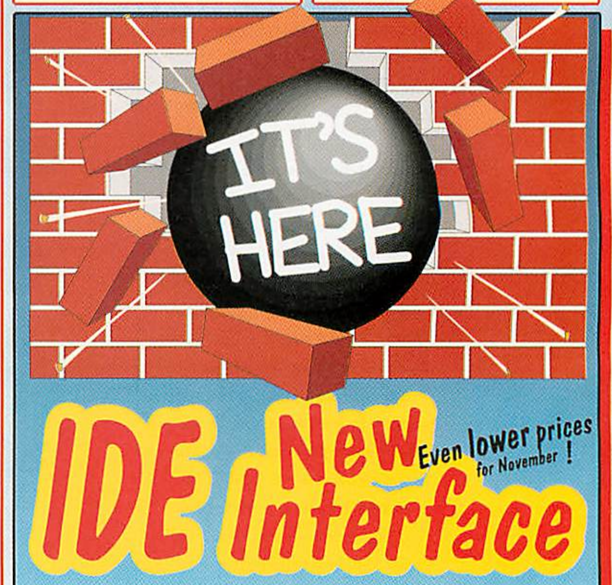
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A3000 4 Mb	IFEL	76.38	£65
A3010 1 - 2 Mb	IFEL	36.43	£31
A3010 4 Mb	IFEL	82.25	£70
A3020 / A4000 2 - 4 Mb	IFEL	65.80	£56
A5000 2 - 4 Mb	IFEL	76.38	£65

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Casio Camera QV-100 with Connection Kit	Acorn	499.38	£425
Casio QV-10A/100 Connection Kit	Acorn	115.15	£98
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PowerWAVE 50XG	Audio	297.28	£253
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RISC OS 3.1 Software Upgrade without documentation	Acorn	45.83	£39
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ScanLight 256 for A3000/3010/3020/A4000	CC	162.15	£138
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Vision 24 508 line A5000/400/300/Risc PC	ATM	106.93	£91
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Vision Master Colour Monitor 17" Pro	iiyama	536.98	£457
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Zip Disc 100 Mb, pack of 6	VTI	70.50	£60
Zip Pack (drive + disc) (needs no interface)	VTI	162.15	£138

CD rom software

AddressIT (annual subscription)	Fabis	74.03	£63
All About Handwriting, and All About Planes, KS1-3	Topolog	35.25	£30
Ancient Lands (MS)	IMS	49.35	£42
ArtWorks CD	CC	86.95	£74
Bitfolio 7 + Robert Duncan SuperPack	MGL	68.15	£58
Bitfolio 7 CD	MGL	37.60	£32
Bodywise CD, age 9-16	Sherston	34.08	£29
Breakaway Maths, age 7-12	YITM	57.58	£49
Britain Since 1930 (Anglia), KS2,3 (needs Keynote/Key Plus)	Anglia	22.33	£19
British Birds, age 7-16	YITM	76.38	£65
British Isles from the Air, KS2-4	Anglia	35.25	£30
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DTP-2 Clip Art CD	APDL	11.75	£10
DTP-3 Clip Art CD	APDL	12.93	£11
Dune II CD	Eclipse	31.73	£27
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Frontier 2000 CD rom, KS2-4	Cambs Soft	44.65	£38
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Nursery Rhyme Time CD, age 4-6	Sherston	22.33	£19
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PD-1 CD (Utilities)	APDL	11.75	£10
PD-2 CD (Games, Novelties)	APDL	11.75	£10
PDCD-1	Datafile	16.45	£14
PDCD-2	Datafile	16.45	£14
PDCD-3	Datafile	16.45	£14
PDCD-4	Datafile	22.33	£19
Photobase Decades: Britain Since the 1930s / The Victorians	Longman	47.00	£40
Photobase Decades: The 1960s	Longman	39.95	£34



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Kid Pix 2 CD, KS1,2	LDA	35.25	£30
Kingfisher Children's Micropedia, KS1-3	LDA	62.28	£53
Kiyeko and the Lost Night	IMS	35.25	£30
Map Detectives, age 8-13	Sherston	34.08	£29
Matti Mole's Summer Holiday, age 8-9	Sherston	30.55	£26
Mission: Control - Crystal Rain Forest 2 CD, age 7-11	Sherston	34.08	£29
Photobase Decades: The Victorians, offer	Longman	45.83	£39
Photobase: Science, offer	Longman	45.83	£39
PublishArt Release 3 CD	Smart	27.03	£23
Robert Duncan Cartoon Kit	MGL	37.60	£32
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Simon the Sorcerer CD, offer	GamesW	35.25	£30
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Understanding the Body, KS3,4	Anglia	35.25	£30
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World War II - On the Home Front, KS2,3 (needs Keynote/Key Plus)	Anglia	22.33	£19



Tesco puts Microsoft into perspective

The legend goes that Bill Gates paid a visit to Cambridge back in the early 1980s, well before his company, Microsoft, became the monster it is now. When he met some representatives of Acorn to see if they would be interested in his, then, new MS DOS operating system, he was shown an Econet network and reportedly asked what a network was.

The story may have been coloured by the passage of time, but Gates was back in Cambridge recently to oversee the work on creating his new Microsoft computer science foundation with Cambridge University and to promote Microsoft in education — both of which irk the strong Acorn community. This time, networking, in the Internet sense, was at the top of the Microsoft agenda as the government confirmed plans to equip all schools with Internet connections within the next 2-3 years.

Gates also visited Downing Street earlier in his trip. Coinciding with this visit the government also revealed plans for a £100 million investment programme to equip British schools with computers. It sounds like a lot of money, but as there are some 30,000 schools in the UK, £100 million isn't going to revolutionise the classroom.

Acorn's subsidiary, Xemplar Education, points out that this year alone thousands of schools across the country are already starting to switch on more than 3,000 brand new Acorn and Apple computers and benefit from over 33,000 other items of computer equipment with thanks to this year's Tesco Computers for Schools promotion.

Millions of pounds worth of computer gear was donated to schools without a penny of government money.

Gates' interest in the educational computing scene in the UK is controversial. Many fear that Microsoft is aiming to cash in on the market sector which has traditionally been a stronghold for Acorn and Apple in the UK and Apple in the US. At the same time, concerns were voiced over the value of computers in schools with some saying they were more of a distraction in the classroom than a benefit and that many teachers weren't suitably trained to use computers. Princess Anne was just one dignitary who warned that computers weren't the be-all and end-all of education. Others called on the government to spend the £100 million on more traditional items like books and schools maintenance instead.



Xemplar believes some of these concerns about computing in the classroom are unfounded. Packing classrooms full of PCs running imported software is not the answer, but Xemplar will point to its work in evolving computer technology in schools. Xemplar also know that teachers need all the help they can get to make their computing investment effective. The Tesco scheme is a good example. A first for this year has been the offer of free IT training from Xemplar worth £80 with every computer claimed through the '97 scheme. Targeting teachers who have not traditionally used IT, schools will be invited to bring along their new equipment to Tesco stores nationwide for configuration by a technician, introductory training and a short presentation highlighting the importance of using IT as a learning tool within the National Curriculum.

This has been the sixth year that Tesco has run its Computers for Schools scheme, originally in conjunction with Acorn and for the last two years with Xemplar. This year's computer freebies claimed by schools have been valued at £5 million. A total of 29,000 computers have been delivered to schools since the scheme began in 1992, along with 147,000 items of computer-related equipment worth £34 million. On top of that Xemplar also reports more schools than ever are before opting to 'bank' almost £1 million worth of vouchers in anticipation of claiming even more equipment in next year's scheme. Teachers have forwarded 121,000 spare vouchers, which have been donated to hundreds of special schools up and down the country. Tesco has confirmed that the Computers in Schools scheme will be run for its seventh year in succession in 1998.

Acorn reduces deficit

In its interim financial report Acorn has reported a reduction in half year pre-tax losses from £4m in the first six months of 1996 to £1.1m in the same period during this year. However, turnover continued to fall from £16.5 million in 1996 to £14.2 million this year. The drop in turnover is despite the ramping up of Acorn's new technology development and licensing business centred around networked computing and multimedia solutions.

Acorn continues to supply computers to be marketed by its 50 per cent-owned education subsidiary, Xemplar Education, but almost certainly gets a smaller gross return compared to when it both produced and marketed its education line. However, costs have been reduced sharply, hence the reduced losses.

Commenting on the results, Acorn's managing director, David Lee, said: "Development and licensing activities, which started only at the beginning of 1996, accounted for 40 per cent of our total revenues in the first half of 1997. The results we have obtained by working with clients such as BT, NTT, Samsung and Oracle are impressive. We are now considered to be a key player in the emerging Internet industry, and will continue to develop strategic partnerships to reinforce this position."

Acorn's financial performance, 1996/97:

	Six months to June 1997 (Unaudited)	Six months to June 1996 (Restated and unaudited)
Turnover	£14.2m	£16.5m
Operating loss	(£1.0m)	(£3.1m)
Pre-tax loss	(£1.1m)	(£4.0m)
Cash outflow	(£2.8m)	(£5.3m)

news



Argo's own 56K modem

When the V.34 modem standard was ratified three years ago, we were told that it was virtually impossible to squeeze computer data down a conventional dial-up phone line any faster than the 28800 bits per second that that standard allowed.

Little more than a year later and V.34 modems were already being tweaked by 16.7 per cent to 33600 bits per second. This enables a one megabyte file to be downloaded in less than four and a half minutes, with some compressible files taking almost half that time. That was the absolute limit, so we were told, but along came 56K modem technology, almost doubling the performance of 28.8K V.34.

Argo's ArgoNet service is the first Acorn-dedicated Internet service provider (ISP) to support 56K modems for Acorn users and Argo is supplying its own-brand 'Surf at Speed' 56K data, fax and voice modem, including software, for less than £150 including VAT. This includes a stereo headset, Voyager software (including a free upgrade to new version of the browser which supports frames and tables), plus three month's use of the ArgoNet service.

From a technical point of view, Argo has chosen to support the Rockwell 56K Flex standard with its Surf at Speed modem instead of the rival US Robotics x2 standard. However, the ITU modem standards body is expected to unify the two rival standards next year. Some modems will be software upgradeable to the new standard while others will require chip upgrades.

Fortunately, the Argo Surf at Speed modem is software upgradeable. ArgoNet doesn't exclude x2 users — Argo sells the USR Sportster x2 modem — as their Pipex Internet backbone host provider supports both standards at present. The best news of all comes last — if you have any old working or non-working modem, Argo will trade it in giving you an effective purchase price for the Surf at Speed package of £99.95 inclusive. All you need to do is send your old modem to Argo after you have received your new Surf at Speed package.

Meanwhile, ArgoNet has started to build its new Web site for primary children of primary school age. Called Argosphere, the new site is designed to make Web surfing fun and educating without the threat of exposure to the less suitable side of the Internet. The site will be officially launched at BETT'98 next January, but you can check out the initial construction at http//:www.argosphere.net. Argo can be contacted at tel: 01243 815 815.



New DrawWorks debut at Acorn World

iSV Software Products has announced that its successful DrawWorks2 package is to be succeeded by a new package, DrawWorks Designer, which will be launched at Acorn World.

The new package extends DrawWorks2 features by adding: multiple button bars arranged by function, full time online help, path moulding tool, the ability to wrap vector objects (including text converted to a path) around curves and circles, user definable named colours which can be shared between files, user-definable text styles including font, colour, size, rotation and so on, user-definable default font settings and export selections as 256 colour anti-aliased Sprites or GIFs as well as JPEGs plus other additions too lengthy to list.

DrawWorks Designer will cost £30.00 plus p&p. Upgrades from DrawWorks2 will cost £15.00 plus p&p.

Upgrades will be available during the Acorn World show. All you need to remember to bring is your original DrawWorks 2 installation disc. iSV Products, tel: 01344 55769

Free Acornsoft beta software

Still not decided to definitely visit the Acorn World show at this late hour? Well, if you do go you can come away with Acornsoft beta software which is to be distributed to show goers. The offer is open to all visitors of Acorn World 97 on a first-come first-served basis, giving advance ticket buyers a chance to grab their editions before ticket purchasers on the day.

Users of the released beta software will also be invited to submit their comments on the versions, via the Acorn Web site, which will be live after the show. Advanced tickets can be purchased on tel: 0181 982 6500.

Werewolf looking for new blood

Werewolf Software is growing and the company is now recruiting new programmers. The company is looking to broaden its product range. If you are an Acorn programmer capable of writing quality commercial applications which Werewolf may be able to market to commercial standards, contact the company with full details about yourself at email: programs@werewlf.demon.co.uk or write to Dane Koekoek, Werewolf Software, 23 The Spinneys, Bromley, Kent, BR1 2NT, tel: 0181-289 6003, web: http://www.werewlf.demon.co.uk/

Risc PCs in space

Well, almost – Risc PCs are being used at the CCD Group, Dept of Physics and Astronomy at the University of Leicester for controlling and receiving data from X-ray cameras the university is building for a European Space Agency XMM satellite. Two of the engineers working on the project with the Risc PCs are Liam Gretton and Tony Abbey. Tony can be contacted at email: afa@star.le.ac.uk



Acorn make Java TVCentric

As we recently revealed, Acorn has officially licensed Sun's Java technology, which is central to the development of network computers and related Internet appliances. Acorn has also announced that its TVCentric technologies will take advantage of Java with an enhancement called TVX. This will allow new, Internet-enabled TVs using Acorn's TVCentric technology to run Java applications. Acorn also says it will work closely with Sun to provide Personal Java – a platform-independent version of Java with additional support for displaying digital images on standard home televisions.

Currently, no standard exists for displaying Java technology on TVs, so Acorn is taking the inititative and innovating to fill the gap. Acorn expects TVcentric Java will become the de-facto standard technology for the convergence of TV and Java technologies. Acorn says this use for Java will provide a consistently high-quality look and feel on TV displays presenting materials produced for computer monitors in a format optimised for televisions. Acorn is developing new classes in Java to be called Acorn TVX.

Kevin Coleman, Head of Communications, from the Acorn Group explained: "From now on all of Acorn's operating systems, reference and production designs will have deeply embedded support for Java. Users will have all the same advantages when using Java applets on consumer devices as they do now on desktop computers. Any Java applet will be able to take advantage of Acorn's anti-aliasing font technology, anti-jitter screen displays and advanced graphics rendering without any change to the applets code.

"Personal Java provides cross-platform independence for our reference technologies and we have ensured that OEMs can take advantage of the enhancements our operating system brings. The combination of RISC OS, the leading ARM-based OS, and Java gives us the potential to provide our customers with the potential to include both tailored solutions and generic Java applets in their products. This is appropriate today when using RISC OS, and with our future operating system (Galileo) which has quality of service facilities built into it."

John Redford, Acorn's vice president Future Technologies, explained: "Acorn is building support for Java and PersonalJava into our operating systems to enable users of all our Internet Appliances, whether corporate or consumer, to benefit from the advantages of Java applets and applications."

Jon Kannegaard, vice president of Software Products at Sun's JavaSoft Division, said: "We are looking to diversify into new markets and we are delighted to work with a leader in the consumer Internet appliance arena.

"Acorn has operating systems and technologies highly optimised for the type of consumer Internet Appliances that Personal Java is designed to support. With the adoption of Java on RISC OS now, and the development of Java on Acorn's TVCentric technology, we are clear that we will have a major impact in markets for Internet-enabled products."

An official statement from Acorn states that Acorn's implementation of the Java Virtual Machine, called RISCafé, with Java 1.2 incorporated will be available to Acorn customers at the end of this year. Acorn is also indicating that the new Galileo OS with Personal Java and television-centric Java will be available by mid 1998.

World Religions CD-ROM encyclopedia

World Religions – an illustrated encyclopedia, is a new CD-ROM-based publication available from Sparrowhawk & Heald in Acorn format.

The CD-Rom was officially launched at the National RE Festival held in London recently. The publication is tuned for 7-13 year olds and is designed as an aid for teaching religious education in schools. The world's six main religions are covered in detail, including sound effects, speech, pictures and drawings.

For more information, contact Sparrowhawk & Heald on tel: 01223 576241.

SCSI-to-Parallel Iomega Jaz Converter

Alsystems have introduced a new SCSI-to Parallel Port JAZ Converter. The PowerJaz driver comes complete with the Iomega Traveller interface, which is a parallel port to SCSI converter. The device is suitable for all Acorn computers with a bi-directional parallel port.

This new development enables portability of Jaz media between standalone computers without the expense of multiple internal internal SCSI cards. Overall performance of the PowerJaz interface is dependent on the speed of the parallel port interface. The driver allows complete interchangeability of disc media between SCSI and parallel drives.

Thus a disc formatted on a SCSI interface can be read via the parallel port and vice versa. The driver also allows copying between discs.

The PowerJaz interface is available at Acorn World and is priced at £49 excl VAT. The PowerJaz driver software alone is £25 excl VAT. Alsystems can be contacted on 01420 561111 or e-mail sales@alsystems.co.uk

Acorn and SGI collaboration

Acorn's set-top box (STB) technology will be used in conjunction with Silicon Graphics WebFORCER MediaBase servers as part of OEM-targeted, video-on-demand solution aimed at customers in the corporate, training, education and consumer markets.

Silicon Graphics (SGI), which is most famous for its MIPS RISC processor family and high-performance servers based on the same chips, will work closely with Acorn to deliver customised solutions through Silicon Graphics' reseller base.

The two companies say their solution is ideally suited for situations such as training classes or corporate presentations where hundreds of high-quality simultaneous video streams may need to be stopped and started intermittently.

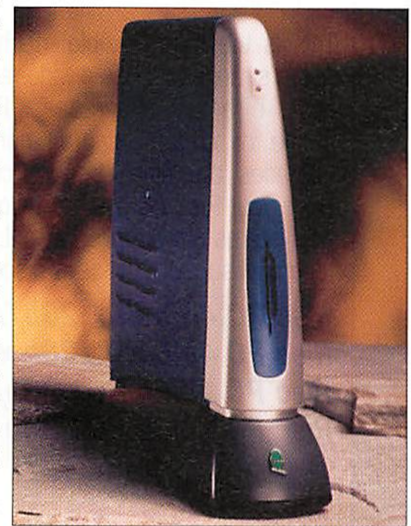
In the same announcement, Acorn confirmed that a StrongARM version of its STB was in the pipeline. A StrongARM NC was announced this month (see other story).

news



Acorn NC goes supersonic

Somebody had fun naming Acorn's next generation network computer (NC) recently. It's StrongARM powered and called *coNCord*. Whether the supersonic airliner metaphor was intentional or not (the winged variety has an *e* on the end of its name), Acorn's coNCord will seem supersonic compared to the first-generation products we have grown familiar with in the last year or so.



Powered by a 233MHz SA110 StrongARM processor, Acorn also reminds us that coNCord represents the next generation of its TVCentric NC technology. Including vertical filtering of the display image to reduce interlace flicker there is deeply embedded support for Java.

The original Acorn NC wasn't a cat-walk design, but the coNCord has had the full treatment with a stylish micro-tower design to minimise its desktop footprint. However, this isn't Acorn's first tower design; a mini-tower version of the original Archimedes case was produced for Acorn over ten years ago though never destined for production. Like its predecessors, coNCord can be used with an optional infra-red keyboard and features a smart card interface. TV support includes PAL and NTSC standards.

Kevin Coleman, Head of Communications at Acorn Group commented: "coNCord is a great step forward in the evolution of the NC. It is a faster, more powerful machine than anything else currently available, and once again marks out Acorn as the leader in this technology.

We now offer a complete range of technologies for licence, from entry level consumer orientated products to high level enterprise solutions." CoNCord was recently taken on a tour of the US to drum up interest in third-party licensing of the new design. No pricing has yet been revealed, but with the older model retailing for £299, we would hope coNCord users won't have to pay a premium of more than £100.

Electrifying

The national press has been reporting a very exciting development reported by partners Nortel — the Canadian telecommunications company and Norweb, the power generation company based in the North West of England. If their dreams are proved to be reality and their laboratory technicians seem to think so, modems might soon become obsolete in favour of direct Internet connections to homes and businesses using the national electricity grid. The performance of these promised connections are said to be 10-30 times faster than today's dial-up modem technology. Maybe the perennial problem of the *world wide wait* on the World Wide Web will soon be over.

So where is the Acorn connection? Back in the mid-80s after having left Acorn, co-founder Chris Curry set up a new company called General Information Systems, or GIS. One of the first products developed by GIS was a local area networking system which, you guessed it, used the electrical wiring in your house or office. All the units were housed in bright red boxes, hence the product name Red Box.

So there was no need to install additional network cabling to connect computers together and GIS also sold a selection of Red Box peripherals like infra-red motion detectors so you could enable your BBC Micro to control a security system. Beebs, Amstrad CPC464s (remember those?) and Sinclair Spectrums could be hooked up to the Red Box mains network, so Curry was poised for his second fortune after Acorn.

Well, not quite. The technology was way ahead of its time and failed to capture the imagination of the computer market at the time. It was also hampered by relatively slow performance and there were worries about reliability. Red Boxes eventually ceased production and Curry diverted resources to other projects. Mains networking has been tried by a couple of other companies since, but with no great success.

So why should Norweb and Nortel fare any better? They are large and respected companies and Nortel, especially, has a good record in developing high-performance communications technologies. These companies don't make optimistic announcements about ground-breaking technology without thinking about it carefully.

The news could also be very positive for Acorn. With high-bandwidth Internet connections to the home at last, the prospects for set-top boxes and network computers will suddenly improve radically. Apparently the new technology won't be rolled out for at least two to three years, but it could be well worth the wait.

Oxford Reading Tree clip-art

Sherston Software and Oxford University Press have released a brand new set of clip-art specially designed and created by Reading Tree Illustrator, Alex Brychta. The clip-art files are designed to enable children to illustrate their own stories based on the popular Reading Tree characters. Available in Acorn, Apple Mac and Windows file formats, the £320.00 + VAT resource includes a free site licence. Sherston Software, tel: 01666 840433, fax: 01666 840048, email: Info@sherston.co.uk

German Web site for Acorn users

ArcSite, a German Web site, has been created specifically for Acorn users where they can publish programs and other information of interest to the Acorn community free of charge. ArcSite's creator, Carlos Santillan, also suggests the information published on the site could be used to compile a new German Acorn magazine.

A discussion forum, simple search engine and links to over 400 other Internet-based sites of Acorn interest are also featured. For more information, contact Santillan at cms@arcsite.de or check out his web site at http://www.arcsite.de

Acorn animation

Nicholas Marriott of Alpha Programming has announced EasyAnim, a simple animation creator. Marriott says EasyAnim is simple to use and animations can feature nearly 800 action frames. A simple picture editor is built into the program, which was created for use by youngsters but is also suitable for adults. EasyAnim requires RISC OS 3.1 or later. An ARM3 processor or higher is recommended but not essential, also 2Mb of memory is strongly recommended.

EasyAnim is downloadable from the Alpha Programming site at: http://www.alphapro.demon.co.uk/. Nicholas Marriott can be contacted at email: nic@alphapro.demon.co.uk.

news



Starting Basic book for charity

A book for beginners learning BBC Basic programming has been produced by Ray Favre. It's non-profit and once production costs have been met, further proceeds will be donated to charity.

Favre reports that over £300 has already been donated to charity. The book has some 336 pages, including numerous diagrams and screenshots, appendices and index.

The book is intended mainly for those who are new, or fairly new, to programming in BBC Basic on Acorn RISC OS computers.

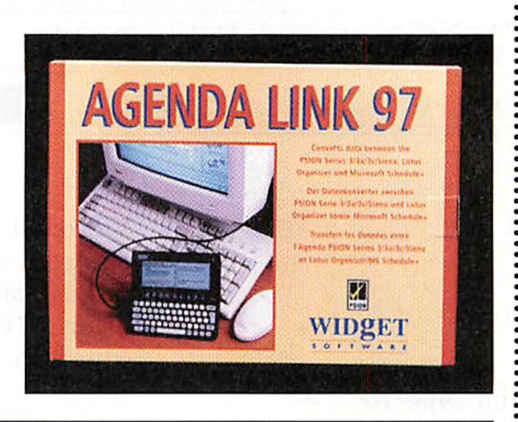
The book doesn't tackle WIMP programming, but explains how a reader can graduate to this level of Basic programming if necessary. A program listings disc is also available and this includes all the book diagrams and screenshots in their original draw file form, to enable the reader to view/print them larger and/or in colour.

A spiral-bound A5 copy of the book is available by contacting the author by e-mail at rayfavre@mail.zynet.co.uk. The current price is £15 for the book alone (of which approximately £4 goes to charity) and £3 for the program/graphics disc (£2 to charity).

Further details can be found on the Web at http://homepage.zynet.co.uk/rayfavre/

Widget translation software for Series 3/PocketBook

It would be highly unlikely that all Acorn users who have either Series 3 or Acorn Pocket Book palmtops don't have to use Windows applications, maybe at work, for example. Two serious Windows applications which beg for compatibility with these palmtops are Microsoft's Outlook and Novell's GroupWise personal information manager and email clients. Knebworth-based Widget Software have now introduced LinkWise 2.0 solutions from Advansys which can synchronise diary entries, tasks and notes with both Outlook and GroupWise. For more information, contact Widget at tel: 01438 815 444, fax: 01438 815 222



New products/upgrades

Product	New features/product details	Price	Contact
TinyArt	* Art package for children * Simple, almost language-free interface * 28 configuarable options * Can import Tiny Draw files, !Draw files and sprites	£30 + VAT Site licence costs £60 + VAT (includes free clipart). Half price upgrades for existing owners of TinyDraw	Topologika Tel: 01326 377771
Christmas Customs CD	* Resource and ideas disc about Christmas * Produced using Multimedia Textease * Comes with TeView browser * In Draw, Sound and Animation formats	£25 + VAT Pre-christmas launch offer only £15 + VAT	Softease Limited Tel: 01332 204911
Look and Read: Captain Crimson	* Designed to improve children's writing using fictional characters * Grammar & spelling adventures * Supports English KS2	£27 ex VAT	Logotron Tel: 01223 425558
New SPEX environments	* Spex ITRoom * Spex Garden * Spex Egyptian Tomb * Spex Shop (ready Oct)	Each £29.95 (site only)	Aspex Tel: 01822 611060
Repton 1	* A classic game from the days of the Beeb	£7.95 incl	ProAction 162 London Rd. Romford, Essex RM7 9AJ

Empire gains StrongARM upgrade

Uniqueway announced the availability of a StrongARM upgrade for its Empire Replay movie editing package. The upgrade costs £15 inc. VAT and postage. Upgrade requests, including your registration number, should be sent to Uniqueway. You can email them at upgrades@uniqueway.co.uk or use conventional post sent to: Uniqueway Ltd, 3 Clarendon Road, Cyncoed, Cardiff, CF3 7JD, tel: 01222 464020, fax: 01222 440071. Uniqueway's Web site is at: http://www.uniqueway.co.uk

Cycling for charity

Acorn User's very own editor, Steve Turnbull, has set himself a remarkable task of cycling 500 kilometres (310 miles) in Egypt in the New Year. The object of this apparent madness is to raise over a £1800 for Mencap. What makes it even more mad is that Steve is not your archetypal fitness freak and cycling maestro – find out all about his project at: http://www.cix.co.uk/~turnbull/ your News Ed has already pledged a suitable amount towards Steve's objective, plus some more if he actually makes it.

Embracing the FreeDotNet

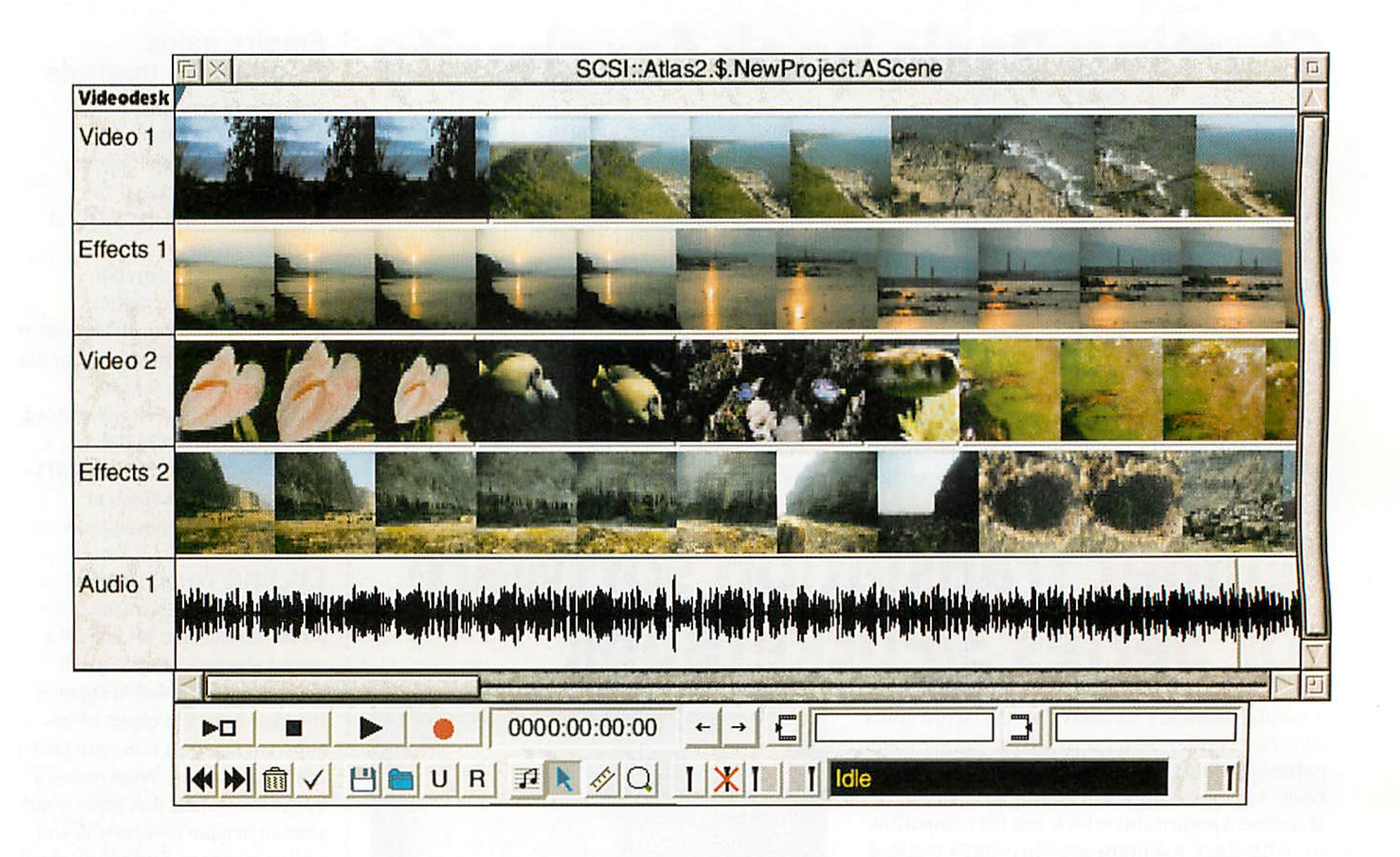
In our October issue we brought news of a London-based Internet service provider, FreeDotNet, which is offering extremely inexpensive basic Internet access. For just £30 you can sign up for two years worth of access, though this does not include email or newsgroups, which cost extra.

There wasn't any Acorn-specific support for the service, either, but this may change with news that as a result of response to our original story, FreeDotNet is keen to take on Acorn users. *Acorn User* has learned that configuration details for using FreeDotNet are being prepared for ANT's Internet package.

Our Comms editor, David Dade, should be bringing further information on this development in our next issue. FreeDotNet, e-mail: adsmith.sales@thefree.net, Web: http://www.thefree.net, tel: +44 181 568 3377, fax: +44 181 568 3474

Videodesk

Full-frame, True-Colour, Non-Linear Video Editing System.



Videodesk

- Frame accurate editing.
- Separate audio and video tracks.
- Instant playback of edits.
- Effects include mix, fade and wipes etc.
- Multi-level undo and redo.
- User selectable quality factor up to S-VHS*.
- Composite and S-Video inputs and outputs.
- Resolution of up to 768 pixels x 576 lines.
- 50 fields per second capture and playback.
- 24 bit colour range.
- 16 bit stereo inputs and outputs.
- Audio sampling up to CD and DAT rates.
- Direct-to-disc recording.
- Built-in hardware Moving JPEG (MJPEG) Codec.
- Contrast, Brightness and Saturation adjustment.

Videodesk is a significant advance in video editing for Acorn machines. It allows full-size, full-colour and full-motion video to be compressed to disc in real-time using MJPEG hardware. The compressed data can be edited frame accurately and output back to video. Unlike tape-based editing systems there is no generation loss or waiting for tapes to rewind.

Complete video editing software is supplied as standard, which is sophisticated, flexible and simple-to-use. Editing is done on a multi-track time-line with separate audio and video tracks. Effects are generated digitally and include mixes, wipes and fades. Sequences of clips can be played back continuously without waiting for them to be assembled into a single file. So there is no waiting to preview an edit and disc space is not wasted. **RiscTV** is supported for real-time desktop display up to full-screen size.

Videodesk is available now direct from Irlam Instruments Ltd.



For the Complete Picture...

Irlam Instruments Ltd, Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex, UB8 3PH. Tel/Fax 01895 811401. Email: sales@irlam.co.uk
Website: www.irlam-instruments.co.uk

Please note: Videodesk requires a RISC PC, large fast hard disc and 8Mb RAM minimum. A StrongARM processor is recommended. Check suitability for your computer before ordering. 1 years guarantee. E & OE.
*To obtain good quality video requires storage of around 1.5Mb per second (5.4Gb per hour).



graphics



Time tells

Another year passes and we have reached the eve of another Acorn World; an opportune moment to reflect on the current state of Graphics and DTP on the Acorn platform. It has struck not only readers of the Graphics Page but almost the entire Acorn market that the post-Risc PC software development boom has come to an end.

However, a handful of companies still dedicated to the Acorn platform have continued in the pursuit of excellence to write software and produce Graphics and DTP products of the highest class. With apologies for all the exclusions, this Premiere League of companies includes BeeBug, authors of Ovation Professional, Spacetech for their continuation of the Photodesk project and digital camera drivers, Alternative Publishing for Image FS and Irlam for video digitising and editing tools, and EFF and Look Systems in font design and management. Companies such as Pineapple, Akalat Publishing and TJ Reproductions have maintained their invaluable support and services.

Sadly, many companies once renowned for their contribution to the platform have either put development on a back burner or seem to have abandoned ship and made a deal with the devil so to speak, joining the $38 billion dollar Bill Gates bandwagon. There used to be pride in creating computer programs, now there only seems to be money, but that is another issue which doesn't affect the Acorn platform in any case.

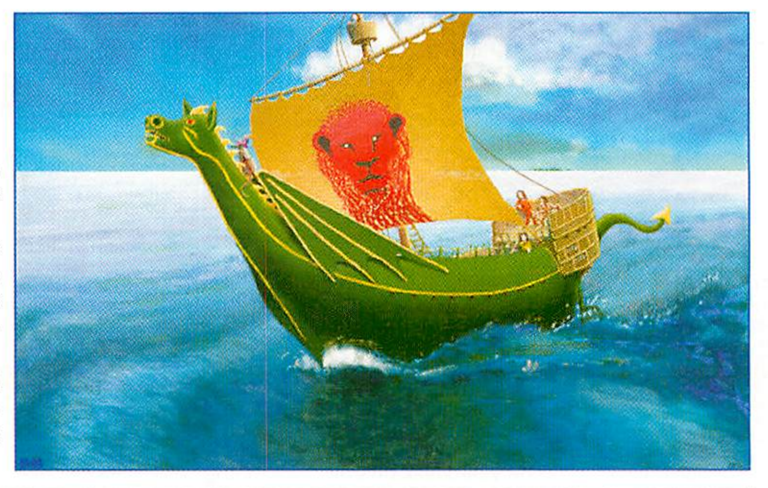
Yes, a ship which may be sinking is a ship worth abandoning, especially when you can teleport onto a fast and very bouyant alternative, but do you remember when this was tried by Computer Concepts with 'Xara's adventures in Windows land'. Corel bought out Xara Studio (Artworks for Windows) and regretably the slickest vector graphics program PC users are ever likely to see is now being scavenged by bargain hunters at the clearance bins. Most of the original and top programmers at CC/Xara have left the company and Impression and Artworks, the two sofware giants of times past, are fading fast.

Things are most certainly not all doom and gloom. But graphics users and publishers should realise, as Acorn have, that the insular world of RISC OS is no match for the power of the dark side and that compatability (but not replacement) with Windows and the latest Internet standards will yield the richest harvest for Acorn users. Despite the top end of Acorn chip performance only increasing 16.5 per cent since the launch of StrongARM, from 200 to 233MHz, the platform's speed is still unmatched in certain areas of DTP and graphics.

Even so you can safely bet that RISC OS won't win hoards of newcomers to the personal computer world, but for those who already benefit from it, there is still much to be gained. Time and time again showcase companies write in explaining how either the sole use or additional use of Acorn machines have given them a huge competitive edge over their competition. In some ways Acorn's failure to thrive has been beneficial as the few using the machines professionally have a significant advantage over many who don't.

The exact nature of the next generation Risc PC will influence how much longer the advantages of owning a RiscOS desktop machine over a PC will persist for higher end users. But with more horsepower, more fully integrated PC capabilities and improved web site authoring software, Acorn designers and publishers should enjoy their position for some while yet.

Picture of the month



This stunning picture inspired by C S Lewis' *Dawn Treader*, painted by D H Billingham of Northampton, is this month's winning pic.

The 1.6Mb image was created mainly with the use of the standard brushes in Studio24Pro on a StrongARM Risc PC. With the help of masks and texturing the sea using the Studio24Pro's texture explorer, this exemplary piece of original bitmap artwork was completed.

The detail and subtle use of colour and texture throughout the image make this one of the best bitmap images ever submitted to the page. Many congratulations and £20 go to Mr Billingham.

State of the art screens

TJ Reproductions has recently upgraded its specifications with a new ultra-high precision motor drive for its ECRM A2+ imagesetter and the very latest Postscript II Harlequin RIP. The new hardware matches the film registration performance of drum imagesetters enabling TJ Repro to guarantee perfect registration at 175line screens and higher. High screen rulings (150 lines per inch is usually used for colour printing) can reduce the coarseness of colour tints, smooth out graduated fills and sharpen hard vector edges providing the printers can cope.

More importantly, TJ will soon be offering stochastic screening, a frequency modulated technology which could be described as an advanced 'error diffusion' screening system: conventionally, the dots vary in size on a fixed grid changing the intensity of the printed colour, but stochastic screening scatters the smallest possible dots more or less densely to achieve a superior effect, just as diffusion prints are invariably more appealing than standard halftone ones.

TJ Reproductions are on 0171 372 4430 and on tj.repro@argonet.co.uk

Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler, at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to augrafix@idg.co.uk.

Showroom open Mon-Sat 10-18.00 hrs (All prices INCLUDE VAT) Carriage not included

CD-ROM Drives

New

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card withCDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal CD-ROM Drives

Panasonic 24xCD **ATAPI**	£90c
ATAPI Cable & Fitting Kit	£5a

Above drives are compatible with RiscPC Computers with RiscOS 3.60 or greater and all A7000 Computers.

Sony 2x CD **SCSI** 275ms	£80c
Pioneer 12x CD **SCSI** 130ms	£Callc

External CD-ROM Drives

New

Panasonic 24xCD **ATAPI** - suitable for Simtec IDE interface	£190c
Sony 2x CD **SCSI** 275ms	£135c
Pioneer 12x CD **SCSI** 130ms	£Callc

TopicART CD £15



This CD-ROM contains over 2000 ClipArt files, each in Draw, ArtWorks & CorelDraw3.0 EPS formats. The CD also includes high quality Replay Movies & other demos. Site Licence is included.

Hard Discs

New

Carr.: a=£2, b=£6, c=£8

NEW!! Simtec IDE Interface £69

New High performance IDE/ATAPI interface for all RiscOS Computers from A3000 to RiscPC (specify when ordering). Supports up to 4 IDE/ATAPI devices including ATAPI CD-ROM Drives.

3½" Hard Drives	IDE	SCSI
IBM 540Mb	-	£150b
Quantum 1Gb	£Callb	-
Quantum 2.1Gb	£150b	£260b
Quantum 4Gb	£215b	£Callb

Syquest Removable SCSI Drives

105Mb Int Drive	£90b	105Mb Cartridge	£29a
EZ230 Ext Drive	£160c	EZ230Mb Cartr.	£21a
EZ135Mb Cartr.	£20a	270Mb Cartridge	£40a

Hard Disc Interfaces/Accessories

IDE interface	£69b	50-50C SCSI Cble	£12a
Morley Uncached	£100b	25D-50C SCSI Cbl	£12a
Morley Cached	£165b	SCSI2-50C Cable	£18a
Cumana SCSI II	£175b	SCSI2-25D cable	£18a
		50IDC 4-way SCSI	£12a
External case/psu	£90c	50C Terminator	£12a
2nd IDE Drive Kit	£15a	50HPC Terminator	£15a

zip/jaz Drives

New

Now include our RiscOS JazZip tools (£15 if purchased separately)

- zip & jaz Drives work just like hard drives except they are removeable, giving instant access to files
- zip drives use 100Mb capacity discs & jaz drives use 1Gb discs allowing unlimited capacity.
- The drives are fast. Data transfer speeds up to 1Mb/s for zip drives & >5.5Mb/s for jaz drives - ideal to backup your hard drive.
- Each drive comes with 1 year warranty and a starter disc.
- These drives require a SCSI card that is suitable for removeable devices.

Internal zip drive (5¼")	**£120c**
External zip drive	**£120c**
Single 100Mb zip Cartridge	£14a
Pack of 6 zip Cartridges	£65b
Internal 1Gb jaz drive (3½")	**£245c**
External 1Gb jaz drive	**£320c**
Single 1Gb jaz cartridge	£76a

JazZip Tools

New

The ultimate utility for SCSI or Parallel Iomega Zip/Jaz Drives

£15a Inc VAT

(free when purchased with a drive)

JazZip provides you with a complete set of RiscOS tools for Jaz/Zip drives which are equivalent to those provided with the PC DOS utilities that are provided with Iomega drives. Requires a driver for parallel use. Features include;

- Password protection of discs using the standard Iomega protection features which are compatible across RiscOS, PC and Mac platforms.
- Lock/Unlock zip/jaz discs without passwords.
- Lock/Unlock zip/jaz discs with passwords.
- Unlock zip/jaz discs until next ejected from drive.
- Low Level format zip/jaz discs.
- Initialise zip/jaz discs for RiscOS.
- Initialise zip/jaz discs for DOS/Windows.
- Unprotect the Tools disc provided with drives to allow them to be reformatted/Initialised for Acorn
- Compatible with IZipFS, Morley, Cumana, VTi, PowerTec SCSI. Other support to be verified.

RiscOS Computer Systems

1yr warranty. **Carriage included on computers.** All machines are single slice & a backplane is fitted to 10M RiscPC only.

233MHz StrongARM now fitted to all RiscPC Computers.

Computer Model with	14"(AKF60)	17"(AKF91)	No Monitor
NetStation (Modem OR 10baseT Ethernet)	£Call	£Call	£Call
NEW A7000+ with 48MHz ARM7500FE, 32MHz memory bus, EDO RAM.			
A7000+ 8MHD1.2Gb **NEW!**	£1055	£1450	£810
A7000+ 8MHD1.2Gb+24xCD **NEW!**	£1135	£1530	£890
RiscPC StrongARM 4MHD1.2Gb	£1365	£1740	£1100
RiscPC StrongARM 4MHD1.2Gb+24xCD	£1435	£1810	£1170
RiscPC StrongARM 10MHD1Gb	£1665	£2040	£1400
RiscPC StrongARM 10MHD1Gb+24xCD	£1735	£2110	£1470

NEW!! RiscPC's are now available with 15" iiyama Monitors

Deduct £125 off 14" prices for Hi-Spec 14" Monitor, 1024x768, 30-54kHz!

Deduct £20 off 14" prices for iiyama MF-8515G 15" Monitor.

Deduct £125 for iiyama MF-8617E or £105 for MT-9017E from 17" prices.

20/20 Finance on Acorn computers - ~20% deposit & 20 interest free monthly payments. Loans from £700(min) - £3000. Subject to status.

StrongARM Upgrades with RiscOS3.7 £250

QuickLynk (v1.04) £24a

With Local Cable 5m - £36a, 10m - £38a, 20m - £44a

QuickLynk allows you to access another remote RiscOS computer using the serial port via modems or locally using a cable to connect the 2 computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Transfer rates up to 1.9 kbytes/s can be achieved with older computers, eg. A410, A3000, rising to 11.4 kbytes/s on the RiscPC range. The transfer rate is limited by the serial port speed. QuickLynk cannot at present be used directly from programs/command line.

QuickTile (v1.03) £25a

QuickTile allows you to create posters from ANY RiscOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. New features include the facility to print inverted crop marks or no crop marks. QuickTile can only be used with the RiscOS printer Driver or TurboDrivers. **Requires RISCOS 3.10 or later. Return disc to upgrade for £4. Upgrade from Tiler for £18.**

Mail Order - 0161-474 0778 (All prices INCLUDE VAT) The lowest prices without compromise

RiscPC PC Cards

A1 5x86-100 (512kb)	£380c
above price includes PC Pro	
Acorn 586-100 (256kb)	£350c
Acorn 486DX4-100	£230c
PC Pro (without PCExchange)	£38a
Windows '95 CD (Full)	£90a

The above can be installed directly from CD without previously installing DOS or Windows.

RiscPC Upgrades

2nd Slice with PSU	£116c
2nd Slice without PSU	£90c
YES 16 bit Mozart Card	£70a

Memory

Following prices strictly whilst stocks last.

RiscPC/A7000 SIMMS

4Mb	£20a	8Mb	£28a
16Mb	£50a	32Mb	£100a

RiscPC VRAM

1Mb 2nd user	£40	2Mb	£95
1-2Mb u/g (exchange)			£75

Call for details of memory for other models.

Monitors (Carriage £10)

Older computers will require an adaptor £12

Hi-Spec 14" Monitor £140
FST, 0.28" dp, 1024x768, 30-54kHz & pre-sets.

Ilyama MF-8515G 15" £245
High spec FST Tube with 0.28" dot pitch

Ilyama MF-8617E 17" £500
High spec FST Tube with 0.26" dot pitch

Ilyama MT-9017E 17" £530
Very High spec Diamondtron tube, 0.25" stripe

Printers (Carriage £8)

Canon BJC-4200	£180
Canon BJC-4550 (A3)	£350
Canon BJC-620 (720dpi)	£240
Epson 400 (720dpi, 3ppm)	£190
Epson 600 (720dpi, 4ppm)	£275
Epson 800 (1440dpi, 7ppm)	£390
HP LaserJets 6P	£550

Add £47 to above printers for TurboDriver

I³ Networking (Carr. £6)

A30X0 EtherLan 102	£140
Archi EtherLan 514	£140
RPC/A7k EtherLan 602	£120

Add £17 to above prices for Access+.

Portable Computers

Carriage: a=£2, b=£6, c=£8

Pocket Book II (1Mb)	£305b
NEW Psion Series 5 - includes PsiWin Link	
4Mb RAM	£430
8Mb RAM	£480
Psion 3c(backlit) 2Mb	£325b
AutoRoute Express UK/Eire - one of the best packages for the PB/3a	**£60a**

A-Link	£59a	Mac Serial Link	£50a
Parallel Link	£34a	PsiWin PC Link	£80b
128k RAM SSD	£48a	512k RAM SSD	£135a
256k Flash SSD	£53a	512k Flash SSD	£89a
Mains Adaptor	£18a	PBII/Ps3a Games	£38a

Hardware Upgrades

24i16 Card (1Mb)	£450b
Dual Serial Card	£104b
FPA for 25MHz ARM3	£67a
Joystick I/F (Not RiscPC)	£30a
Logitech Mouse (Acorn)	£26a
Midi Max Card (CC)	£79b
Movie Magic (1 only)	£210b
RiscTV Card (Irlam)	£265b
RiscTV Teletext option	£45a
Scart Cable (9 or 15 pin)	£12a
Serial Upgrade (A3000)	£27a
2 x 25W Speakers	£30b
2 x 80W Speakers	£35c
Videodesk (Irlam)	£1165b

Hard Cards/Multi-Pods

See top for other hard discs. Carriage £8

A3000/A3010 Hard Cards

340Mb	£175b
420Mb	£195b

Scanners (Carriage £8)

ScanLight Video 256	£215

Epson Colour Scanners
Include !TWAIN & ImageMaster for RiscOS. Bundles include CorelPaint & OCR software for PC's/PC Cards and approp PC interface card.

GTx-5000 Para bundle	£250
GTx-5000 SCSI bundle	£360
GTx-8500 Para bundle	£525
GTx-8500 SCSI bundle	£550
GTx-9500 Para bundle	£630
GTx-9500 SCSI bundle	£660

Modems (Carriage £8)

33.6 FLASH Sportster	£175

Flash upgradeable to 56kbs
Modems come with a 9-25 PC wired cable. A3000/Archi require an Archi wired cable.

ANT Internet Suite II	£110a
ArcFax	£31a
Dual Serial Card	£104b
9-25 Archi or PC Wired Modem Cable	£12ea.a
3-way Serial T-Switch (incl. comm. cable)	£32b

Printer Consumables

Carriage: £2 for Cartridges, £8 for Toner

BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
BJ-210 (BC-05)	£28	BJ-240 (BC-06)	£Call
BJC-600 Series		BJ-300 (BJI-642)	£16
BJI-201HCbk Black	£10	**BJC-4000 Series**	
BJI-201bk Black	£6	BCI-21Bk Black	£9
BJI-201C/M/Y	£8 ea.	BCI-21C Colour	£17
BJC-800		BC-20 Fast Black	£28
BJI-643 Black	£18	BC-22 Photo Cart	£34
BJI-643C/M/Y	£23 ea.	BC-22 Photo Kit	£39
HP DeskJets-500 ser.		**HP DeskJets 600 ser.**	
Mono	£23	Mono	£25
Colour	£25	Colour	£27

Epson Stylus Colour	Black £16/Colour £26
Epson Stylus Colour II	Black £20/Colour £26
C3903A Toner (LJ5P)	£64
EP-L Toner (LBP-4/HP LJIII)	£64
HP 92274A Toner (HP LJ4L)	£60
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Where to Find Us



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Acorn Volume 5a PRM	£29.75b
Acorn BBC Basic VI Guide	£19.95b
Acorn RiscPC Tech Ref Manual	£49.95c
ArtWorks Made Easy (Dabs)	£5.00a
Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
RiscOS 3 First Steps (Dabs)	£5.00a
Wimp Programming for All (Beebug)	£10.95a

CD-ROM's (Carriage £2)

CD software for RiscOS

ArtWorks on CD (CC) (Carriage £6)	£90
Childrens Micropedia (Kingfisher)	£58
ClipArt CD 1/2 (CC)	£21 each
Dinosaurs (Microsoft)	£50
Dune II (Eclipse)	£41
Granny's Garden CD	£32
Guardians of the Greenwood	£51
Hutchinsons Encyclopedia	£15
Kiyeko	£Calla
Musical Instruments (MS)	£50
My 1st Incred. Amazing Dictionary (DK)	£38
PB Bears Birthday Party	£42
RiscDisc Vol 1 / 2 CD	£17 / £20
Simon the Sorcerer CD	£41
The Way Things Work (DK/IMS) **Limited**	£40
Ultimate Human Body (DK/IMS) **Limited**	£40

Applications

Carriage: a=£2, b=£6, c=£8

Acorn C/C++ (Acorn)	£229c
Advantage (Longman)	£51a
ANT Internet Suite (ANT)	£110a
ArcFax (David Pilling)	£31a
ArtWorks (CC) **Limited Offer**	£88b
Card Shop (Clares)	£23a
Chameleon 2 (4Mation)	£39a
Compression (CC)	£34a
DataPower (IOTA)	£105b
DaVinci (Spex)	£Calla
Disc Rescue 2 (Look)	£43a
Easy C++ (Beebug)	£102a
Eureka v3 (Longman)	£93b
FireWorkz Pro (Colton)	£134b
Font Directory2 (Look)	£42a
Font FX (DataStore)	£12a
Hatchback (4Mation)	£35a
HTML Edit 3 (R-Comp)	£47a
ImageFS2 (Alt Publ)	£43a
Image Outliner (IOTA)	£52a
Impression Style / Publisher	£80b / £125b
Impression Graphics Loaders (CC)	£40a
Impression Text Loaders (CC)	£30a
MacFS / MacFS Lite (CC)	£89a / £50a
Ovation Pro	£175c
PC Pro (without PCExchange)	£38a
PC Pro (with PCExchange)	£47a
PC Sound Professional (R-Comp)	£27a
Personal Accounts (Apr)	£40a
PhotoDesk Light (Spacetech)	£120b
PhotoDesk2 (Spacetech)	£245b
Prophet (Apricote)	£154b
Resultz (Colton)	£85a
Rhapsody (Clares) v3	£84a
S-Base2 Personal / Developer	£54c / £100c
ShapeFX (Datastore)	£12a
Sibelius Junior	£50a
Sibelius 6 / 7	£163b / £898b
Sleuth2 (Beebug)	£99a
SparkFS (Pilling)	£24a
Speech 2! (Superior)	£24a
StrongGuard (ARMClub)	£24a
Studio24 Pro (Pineapple)	£130b
Textures Professional (R-Comp)	£19a
Touch Type (IOTA)	£42a
Top Model 2 (Spacetech)	£149a
TurboDrivers Canon/HP or Epson(CC)	£47b
Vector (4Mation)	£72a
Web Designers Toolkit (R-Comp)	£28a

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Birds of War (4D) 2Mb	£24
Break 147/Superpool	£24
Carnage Inc (4D)	£19
Chocks Compendium	£24
Crystal Maze (Sher)	£26
Cyber Chess (4D)	£24
Darkwood (Eclipse)	£23
Drifter (4D)	£30
Dune II (floppy) (Eclipse)	£30
Empire Soccer (MagIm)	£24
E-Type Compend. (4D)	£19
E-Type 2 (4D)	£24
Fire & Ice (Times Warner)	£22
Global Effect (Eclipse)	£30
GODS (Krisalis)	£10
Haunted House (4D) 2Mb	£19
Holed Out Compendium	£19
James Pond (Krisalis)	£10
Krisalis Collection	£25
Lotus Turbo Chall2 (Kris)	£22
Magic Pockets (Reneg)	£23
Play it again Sam 2/3	£22 each
Populous (Krisalis)	£25
Real McCoy 2/3/4/5	£24 each
Repton 3/4 (Superior)	£22 each
Sally & Wally (Oregan)	£21
Saloon Cars Deluxe (4D)	£24
Scrabble (US Gold)	£24
Sim City 2000 (A5000)	£31
Simon the Sorcerer 2Mb	£31
Spobbleoid Fantasy (4D)	£24
Starfighter 3000 (Fednet)	£24
Stunt Racer 2000 (4D)	£24
Tanks (Werewolf)	£23
Time Machine (4D)	£19
Virtual Golf (4D) 2Mb	£24
Wolfenstein 3D	**£15**

Educational (Carr. £2)

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Fun School 3 (under 5, 5-7, or over 7)	£20
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Playdays (Gamesware)	£22
Ridiculous Rhymes	£45
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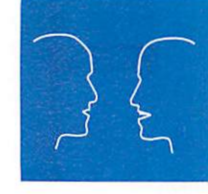
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Unit 2A, Heapriding Business Park, Ford St, **STOCKPORT**, Cheshire. SK3 0BT











Seeing the sites in Florida

While visiting the United States of America you might think it unlikely that you could bump into a Acorn enthusiast in Florida. The truth is that on 82nd Street, Miami Beach you could very well encounter Frode M. Wells. Frode is not a native American, having emigrated from Norway in 1992, but he is a strong supporter of Acorn computing and his website is a mine of useful information and links dedicated to Acorn computer technology.

His introduction to Acorn machines began with an Archimedes A305, then later came an A410, and currently he's one of a select band of Risc PC owners living in the United States. Frode has had e-mail contacts from some other US Acorn users who are mostly in university, higher education and scientific communities.



Acorns growing in Florida

Frode works for Internet consultants Americonnect, Inc. and the site contains examples of his work for clients' Web pages and graphic designs for printed products such as business cards, publicity banners, logos, and magazine covers. His wife Jackie is a professional hairdresser and cosmetologist with her own page on the website, and they have two small children. Frode describes their one-year old as 'very helpful' and their four-year old daughter likes to touch the computer keyboard – he must be a very patient parent!

Frode's Acorn and other links were originally collected for his own use from the Web, periodicals and magazines (including this one) and he started publishing the list on the Web in May 1996. The subscription to US Internet Service provider *Earthlink* costs $19.95 a month for e-mail, news and 2Mb of Web space, with of course free local call access and no time charges.

His very personalised general selection of links covers many areas, from Art, Business and Cars to Norway, Television and Windows, and his Newsroom feature focuses on technology items with Acorn relevance trawled from around the Internet. The frequently updated Acorn-related links to RISC OS software and to developers of Acorn hardware and software will be a valuable asset for anyone's Acorn hotlist.

Frode's smart site is well worth a visit, and perhaps you'll bump into him in person next time you're holidaying in Miami Beach. Wear an Acorn pin and you might even get your hair done at a special rate.

Frode M. Wells' website
http://home.earthlink.net/~frodemwells

More of yoURLs

http://dialspace.dial.pipex.com/matthew.bullock/
Matthew Bullock's 3D ROM Patch and Sally the retriever pup

http://www.bt.com/newsroom/doc.htm
All the latest BT News releases and special offers

http://www.merton-house.demon.co.uk/AntiPC/
Matt Nicholls' Anti-PC and Pro-Acorn pages

http://www.club.innet.be/~year0332/
Manuel Timmers' Anarchy in Computerland seeing things the other way

http://www.cje.co.uk/adam/soft/index.html
Download Adam Evans' CMaillist software for the ANT Suite

http://www.zipcon.net/~infopark/freenet/
Phillip Temple's Freenet Internet software links page

http://www.cowgate.demon.co.uk/mit/download.htm
Tim Wiser's Wonderful World and his !CSV2Web HTML table application

http://www.anybrowser.org/campaign/
"Best Viewed with ANY Browser" campaign site

http://www.infohiway.com/faster/index.html
The Bandwidth Conservation Society, including GIF Tips and Tricks

http://browserwatch.internet.com/browsers/browsers-full.html
"What the world's watching with". ArcWeb's there – Fresco wasn't!

http://www.miranova.com/~steve/Lynx-View.html
See how your web pages look to those using the Lynx text-only Web browser

http://www.delorie.com/web/wpbcv.html
The Web page backward-compatibility viewer – check yours

http://box.argonet.co.uk/users/jsd/
Home of Jonathan Duddington's alternative news-reader !Pluto and SPEAK Demo

http://crash.ihug.co.nz/~adam/
New Zealand Acorn owner Brian Adam's smart Eyewear and Jewellery website

Contacting me

Keep sending me interesting URLs for the next yoUR List by e-mail to david@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181 654 2212.

Cryton Closes

The World of Cryton BBS, the enigmatically-named first and original BBS for Acorn users run by comms guru Hugo Fiennes, has finally run its course, as Hugo himself completes his three Warwick University years. Cryton was located at his family's Somerset home and ran almost faultlessly during his absence, having served since April 1989 as a test-bed for numerous beta versions of Hugo's pet BBS software project, *ARCbbs*.

All Acorn BBS users and ARCbbs Sysops will feel a loss at the closure of Cryton, but as Hugo moves out to new pastures and fresh projects we wish him every success in the future, and hope that the Cryton name may yet reappear in another guise.

Get into InterGIF 6

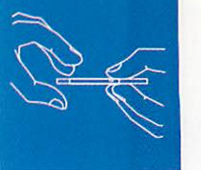
Peter Hartley has released a new version of his excellent GIF animation utility *InterGIF6*, a freely distributable GIF image creator for use with WWW pages. The image sources can be RISC OS Sprite or Draw files including Iota Software's *The Complete Animator* files, and *InterGIF6* can make interlaced, transparent GIFs, and/or animated GIFs from them. This latest version allows you to change the image's palette to the *Netscape* standard Windows 216-colour palette, so your GIFs will look good on PC or Mac Web browsers too. You can get the only RISC OS program that makes animated GIFs from Peter Hartley's website.

InterGIF6
http://www.ant.co.uk/~peter/software/intergif.htm

Try TriLink

The Bajorasoft budget ANSI Comms terminal *TriLink* announced during the Summer claims to get you online within 10 minutes of installation, and if you have a RISC OS computer running version 3.10 or greater with at least 1Mb RAM and a Hayes-compatible modem, this is very likely. *TriLink* comes with a dialling directory of Acorn BBSs and simple setup options to get you online quickly and easily, its bold and clear 26 page manual explaining the process. *TriLink* costs £15 plus £1 P&P. For the latest information on *TriLink*, visit the new Bajorasoft website.

Bajorasoft
Phone/Fax: 01689 877586
Email: info@bajorasoft.demon.co.uk
Web: http://www.bajorasoft.demon.co.uk/



Nutters

UK demo crew the Nutters are about to launch their new web pages, featuring information about the group and news about forthcoming releases. The pages should be accessible by the time you read this. The website can be found at http://www.bath.ac.uk/~ee5cph

Mame

The popular arcade machine emulator program, *MAME*, has been significantly updated with a new release. Version 0.28 now supports an even bigger range of games and includes a number of bug fixes and sound patches. *MAME* can be found on the Web at http://www.elecslns.demon.co.uk/MAME

Frodo

Machine emulators seem to be ruling the PD scene at the moment, and here's yet another one to try out. *Frodo* is the RISC OS port of a Commodore 64 emulator originally written for the PC. If you've ever played with any of the other machine emulators on your Acorn, you'll realise that emulating foreign computers and alien chip sets is not an easy task and usually results in emulators being quite tricky to set up. *Frodo* is no exception as it features a range of different emulator 'flavours' which run with a variety of speeds and compatibility for C64 programs.

However, once you've got it running *Frodo* does the job surprisingly well. You can play a good range of original C64 games and demos and *Frodo* even manages to emulate hardware specific features like raster bars with some degree of accuracy.

For information on the Acorn version of *Frodo*, contact Andreas Dehmel by e-mail at dehmel@informatik.tu-muenchen.de

WordConv

Some of the main complaints that Acorn users have to put up with are the problems involved with transferring data from 'industry standard' PCs to our Acorn machines. Although in many cases it's a much easier process than many non-Acorn devotees believe, there are still problems in some areas. Programmer Andrew Miles rates document conversion from Microsoft *Word* as a key area in this battle and that's the story behind a new utility that will hopefully become another flagship product from the Public Domain.

Converting *Word* files *to Acorn Impression* format really is quite a tricky project to undertake. Microsoft have always felt the need to over-complicate both their programs and the file formats used by them. *Word* is no exception. Microsoft make the task even harder by refusing to release full details of their OLE file structure.

Fortunately Andrew is well on with the project and has released stage 1 of his *WordConv* program. This first release is a simple OLE decoder or encoder, as Andrew explains. '*Word* files when they are saved by *Word* are "packaged" into what is known as an OLE envelope. This could be described as the Windows equivalent to an image file. Therefore all the separate bits of the complete *Word* document (e.g. text, pictures, equations, spreadsheet, databases) are saved individually and then combined into one file.

'The program takes this file and splits it into the individual sections, or it can take the individual sections and recombine them into the original file. It therefore has two uses – a user can decode an OLE file and get all the GIFs from it and can 'clean' a file (by removing all the waste chunks that Microsoft programs for some reason feel the need to insert).'

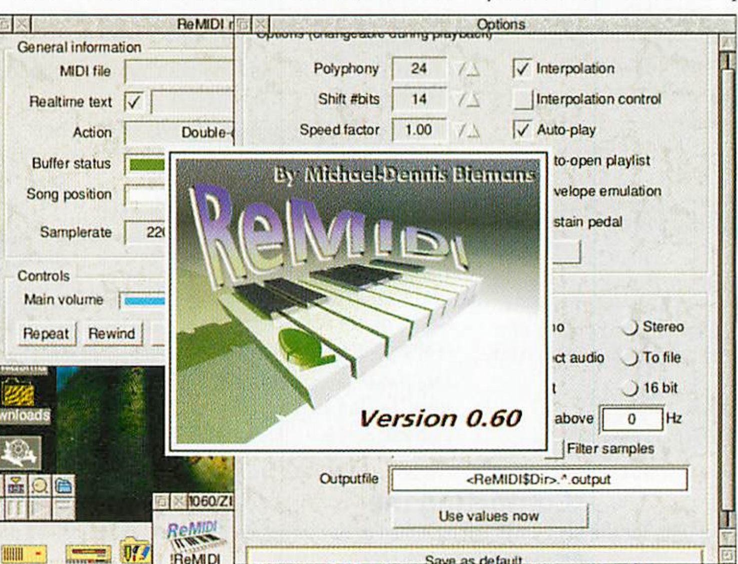
The project obviously has a long way to go yet, but it's a brave undertaking and one which should be supported. The first stage of Andrew's *WordConv* program can be found on the Internet at http://www.regretta.demon.co.uk/andrew/ If you'd like to get in touch with Andrew to offer help with testing or file format information you can e-mail him at Andrew@regretta.demon.co.uk

While I'm on the subject of file format conversion, the highly popular Portable Document Format file reader, ported to RISC OS by Leo Smiers has received several improvements since its last mention in the column.

Version 0.71b features improvements as wide ranging as full printing support, improved text export and better character mapping. More significantly perhaps is the general improvement in file rendering and support now that Pdf has been updated in line with the latest version of xpdf (which Pdf is ported from). This is an essential update for all users of this nifty program. You can find Pdf on the Web at http://www.knoware.nl/users/lsmiers/index.html

ReMIDI

Michael-Dennis Biemans' renowned MIDI file player has been re-designed in a new demo release. Version 0.60 now looks much more professional than the previous releases and includes a host of updates and extra features. If you've not seen the program before, but are interested in playing MIDI files without the cost of a MIDI card and keyboard, *ReMIDI* could well be for you.



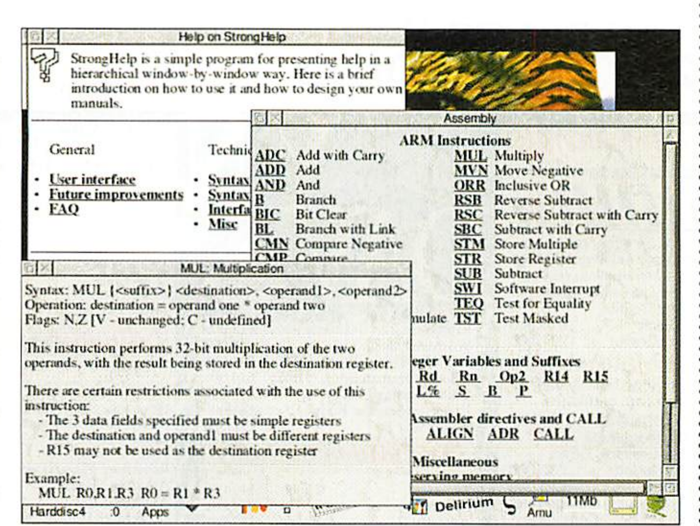
ReMIDI is shareware and can be registered through the Datafile for only £6.25 + VAT (the essential sound patches can also be supplied for an extra £3 + VAT). Send your cheques to The Datafile, Willoughby House, 89 Woodville Road, Boston, Lincolnshire, PE21 8BB.

Strong

Guttorm Vik's *StrongHelp* and *StrongEd* are still being developed with a speed and regularity that's rarely seen in the commercial world. This probably explains why Guttorm's suite of editor and help programs are such great pieces of software. The latest releases place *StrongEd* at version 4.21 and *StrongHelp* at version 2.50, and they're well worth a look, especially for new users who are still using the horrible *Edit* program to tinker around with files.

There's always been a certain amount of good natured rivalry between *StrongEd* and main Freeware competitor *Zap*, with most users allied specifically with only one side. The different styles of the editors tend to produce either solid *Zap* devotees or committed *StrongEd* users.

From a personal point of view it's *Zap* that features on my icon bar at all times. Even if like me, you'd prefer to stick with *Zap* for the basic editing work, *StrongEd* and *StrongHelp* still need to be checked. One of the main difficulties for PD programmers on a budget is access to the vital SWI information in the PRMs. If you can't afford a set, *StrongHelp* and its associated information files may be the answer. The SWI help file provides rough details of all the SWI calls, and it's completely free. The recent *Strong* release includes another updated information file on assembly programming. The hypertext style help gives all the instruction and opcode syntax in an instantly accessible form. It's ideal for the beginner and having all the important details together in one hypertext file saves a lot of time leafing through a reference book.



You can find the *Strong* range of programs and information files on Guttorm's website at http://login.eunet.no/~guttorvi/strong.html

Discopy

Discopy is a brand new utility from the rather strangely named 'Fractal Bonsai Software' group. The name seems to indicate that the program is yet another dodgy tool for pirating commercial software discs, but *Discopy* is in fact designed to rapidly duplicate large numbers of discs.

As Chris of FBS explains 'It works using disc 'image' files ie, the whole disc is read and stored (hence a hard disc is essential), and when you want to write a disc it simply writes the image back.'

The program is simple to use and does the job well but as Chris acknowledges this first release is slightly lacking in one or two areas. The main drawback is the use of the OS formatting routines for pre-formatting the discs you are copying to. If you're duplicating a large number of discs the need to click 'OK' after each format is likely to becomes rather tedious. Hopefully this will be sorted in a future release, but Chris makes no specific mention of this in the documentation.

Discopy is shareware with a registration fee of only £5. Chris's user conditions allow two weeks of trial use before the need to register. However the 'please register' banner which pops up every few minutes while using the unregistered version is more likely to put people off completely rather than encouraging them to register.

Contact the author Chris Whitworth at Rufford House, Wymondham Rd, Wreningham, Norwich, NR16 1AT, or by e-mail at parm@spuddy.mew.co.uk

Recommended PD Libraries

- APDL, 39 Knighton Park Road, Sydenham, London SE26 5RN
- Arch Angel PD, PO Box 41, Exeter EX4 3EN
- ARM Club PD Library, Freepost ND6573, London N12 0BR
- Beebware PD, 83 Forrest Road, Huncote, Leicester LE9 3BH
- Five Star Marketing, 4 Shepherds Walk, Bushey, Hertfordshire WD2 1LZ
- Naked PD, 'Fayence', Fulford Road, Stoke-on-Trent, Staffs ST11 9QT
- The Datafile, WIlloughby House, 89 Woodville Road, Boston PE21 8BB

DFI

The final release of DFI's July demo which was first seen at the Revelation demo competition is here and you can download it direct from the group's web pages at http://www.dcs.ed.ac.uk/~pat/dfi/dfi_code/july.zip Expect a full review next issue. Unfortunately the production is still lacking music. Budding tracker maestros who think they can fill the gap in DFI's expertise should contact the group at pat@dcs.ed.ac.uk

DFI are also nearly ready with their first game release which is described as a 3D game along the lines of *Forsaken* on the PC. The graphics are fast and everything is in 24-bit colour. The game may be shareware or PD, but you can expect full details here when it's ready for release. Remember, you saw it here first...

Revelation 98

Following the success of the Revelation 97 demo competition, organiser John Stonier is keen to hold the event again at next year's much larger Acorn Southeast show. Details are yet to be finalised but the competition rules are likely to be based around this year's competition.

The provisional date for the event is Saturday 4 July 1998. Hopefully the UK scene can build on this year's success and keep the momentum going, but we need to see some more new groups coming through if we're to compete with Germany's dominance of the scene. As always I'll keep you up-to-date with the latest details. By the time you read this the official party website should also be accessible at http://www.argonet.co.uk/users/acornshow/party/

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk.

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Graphical transfers

At various times I've looked at the problem of transferring files between platforms in Risc PCs with PC cards fitted. Initially this was somewhat tiresome but things have got better – *PC Exchange* has been a welcome improvement. This enables text, for example, to be transferred in .rtf form (Rich Text Format) which is supported by PC software and most, if not all, RISC OS wordprocessors. But the other day, an associate came up with another problem – how do you transfer documents that include graphics?

Naturally it's possible using *PC Exchange* if you split the graphics from the text and recombine them. But this wasn't acceptable as the real problem was being able to swap whole documents via e-mail or floppy so that they could be edited on PCs, Acorns and Acorns with PC cards as if the two platforms were effectively the same.

So far as I can tell, this isn't possible if PC users insist on using *Word*, *Works* or whatever, as noone I have spoken to has knowledge of software with the necessary filters. But there are two possible solutions available – Colton's *Fireworkz* and *TextEase* from SoftEase.

These packages are now available for Windows and RISC OS and both use the same basic method of file transfer between the platforms – namely a common file format. Thanks to the Acorn's ability to read and write to PC format discs, all that has to done is to save files to disc that can be read by both versions of the software.

I've played with both pairs of programs and can verify that they both work. But which should you go for?

Fireworkz is a comprehensive wordprocessor with a wide range of facilities aimed at the domestic or business user. When partnered with *Resultz* (spreadsheet) and *Recordz* (database) you get *Fireworkz Pro* – an integrated package with some powerful features – including the ability to integrate graphics in either Sprite form or as *Draw* files.

Fireworkz for Windows is similarly able to deal with graphics. Colton informed me that the common file format meant that files would transfer easily with some provisos – first, that the option to embed graphics is selected and second, that graphics must not be created in Risc PC – only modes as high definition modes have not yet been catered for.

That was the theory – the practice turned out to be more problematic. I found it impossible to transfer Sprites or bitmaps, though *Draw* files were no problem. This, according to Colton, is a bug which has been accidentally introduced on later versions of the software and which they are aiming to fix. Patches/updates for registered users will be provided as soon as possible. This proved a problem for my friends whose logo was in paint/.bmp format. So I experimented with *Draw* and made a reasonable stab at reproducing a logo that does transfer and looks OK too.

TextEase will be familiar to many school users who regularly use it on networks of mixed PC and RISC OS computers. *TextEase* doesn't pretend to compete with office-type wordprocessors but has identified and brilliantly filled its own niche – it's a very flexible and easy-to-use wordprocessor and desktop publishing program that is clearly designed to be easily understood by children (and others).

There are also *Talking* and *Multimedia* versions (the latter is only available on the RPC at present). When it came to transferring files, everything went without a hitch and both *Draw* files and Sprites (and DOS equivalents) buzzed between platforms with no evident problems.

Let me qualify that – no problems except a few that are pretty much inevitable. First off – fonts. If you use system fonts in the Acorn, these may be different from those on your PC or PC card so formatting may be altered during transfer. But all is not lost, both packages attempt to cope with this.

TextEase has built-in software to make the most appropriate match. Colton can supply a small file for Windows to do the same. I initially had problems using *Fireworkz* with Draw files where the text was positioned as part of the logo design and even small variations looked bizarre. The trick was to get the design set, then select the text and use 'convert to path' which means you can no longer edit it, but it stays put as it is no longer seen as text but as a graphic.

Another possible source of help might be the Electronic Font Foundry. Their fonts are available for both platforms and I'm assured that they should behave identically in Windows and RISC OS so formatting will be retained.

The other problem I had was with persuading the filing systems that the files had been saved by 'the other side'. If both PC card and RISC OS operate on the same discs, they are each unaware of what the other side has done until the relevant OS is persuaded to re-catalogue the disc in question. So don't panic if the file doesn't seem to be there – it almost certainly is, it's just hiding. By the way, don't forget to close drive-c windows in RISC OS when using the PC card and to freeze the card when accessing your drive-c partition from RISC OS.

Colton Software
Tel: 01223 311881
SoftEase
Tel: 01332 204911
Electronic Font Foundry
Tel: 01344 875201

Contacting me

You can contact me, Mike Buckingham, by post at: *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP or by dropping me an e-mail at: aupcpage@idg.co.uk

Win95FS

Win95FS from Warm Silence Software is one of those great utilities that you load into the machine and then forget all about the problem they fix – because once loaded said problem is history. If you've ever had reason to delve into Win95 files on your c-drive using RISC OS to look at them, you'll have noticed that the names often get truncated. And if you've tried to copy files you may have had to make sure long file names land up with the right endings – crucial if you want them to do their job.

Well *Win95FS* does all that for you. And for £35 it also comes with a very useful looking application that allows you to make back-ups of Windows files under RISC OS and to re-store them without losing the proper file names. I can't vouch for it as I've not tried it, but it looks like a good idea and if it works as well as *Win95FS* it should be very handy.

Warm Silence Software
Tel: 0585 487642

Windows 98

Windows 95 is, as we all know, not the most reliable piece of software on the planet. It is also several years old and it comes as no surprise that it's about to be updated. Windows 98 is, as I write, at Beta 2 test stage and is expected to be released next year.

From the spec I've seen it doesn't offer huge advantages to PC card users unless you want to use your cards for comms stuff like Internet conferencing and so on. But it does promise to have better diagnostic software, a more efficient filing system using smaller segments (and thus using less disc space) and, of course, fewer bugs. I've asked for a copy, I'll let you know if (and how) it runs on the Risc PC.

ARM-powered Sega?

Every month or so it seems that ARM announce a new partnership with yet another well known electronics company. So, it comes as little surprise to hear that Yamaha are using the ARM7 core as the basis for a new Audio ASIC. What's more interesting is that this chip is rumoured to be the device chosen by Sega to power the sound in their new, 'unannounced' super game console.

The current Sega machine, the Sega Saturn, is already being seen by many as coming near to the end of its time, even though there are still a number of excellent games in production for the device. Any new machine is going to have to rise above all competition, including Nintendo's N64, and it's quite warming to know that Acorn-related technology has been chosen to drive such a machine.

The Yamaha version of the ARM7 is capable of an amazing 64 simultaneous voices and includes a host of different DSP effects to enhance the sound. For the techies out there, the chip uses 36,000 transistors, runs at a clock speed of 45MHz and processes an amazing 40 MIPS. Just a couple of years ago performance like this was unheard of in sound hardware and it just goes to show the power of ARM processors.

Rumours from within the games industry point towards a release date for the new console around the end of next year so it's unlikely that we'll get to see any finished hardware until 1999 by the earliest. By then, who knows what Acorn might have come up with sound-wise for their hardware.

While on the subject of Yamaha, it's good to see that the big multinational are putting their support behind a product for Acorn computers. The Score Machine's ArmEdXG MIDI editor (which was covered in the August Music page) has received allegedly favourable comments from Yamaha's R&D team and is now available from Yamaha's own website:
http://www.yamaha.co.uk/html/h_softwr.htm#ArmEdXG

Score Machine can be contacted at http://www.scoremac. demon.co.uk

ESP take over DMI card

Having been taken up briefly by Beebug, the Audio Dynamics DMI (Dual MIDI Interface) card is now being exclusively supported by Expressive Software Projects. Beebug will still be selling the cards, as are many of the other Acorn third-party suppliers, but ESP will now take over the manufacture and development. As part of this move, they are committed to *supporting and developing it (the DMI card) in lots of new ways.*

ESP are remaining very quiet about what they might be working on although it's known that there is a lot of development going on with low-level MIDI code. Hopefully we'll get to see (and hear) some of the results by the time the Acorn World Show comes around.

In the meantime, ESP will soon be releasing their Synth Instrument editor which is an application that allows voices used in their Synth program to be changed as well as creating new ones. ESP can be contacted at 21 Beech Lane, West Hallam, Derbyshire, DE7 6GP.

Tel: 0115 944 4140
Fax: 0115 944 4150
Email: sales@exsoftpr.demon.co.uk
WWW: http://www.cybervillage.co.uk/acorn/esp

MIDIWorks for NC

For those of you who have read the MIDIWorks review in October, liked what they saw, but don't want to have to spend so much on a sequencer, can now get MIDIWorks Lite. This, as its name suggests, is a cut-down version of MIDIWorks and is aimed more at schools and the serious home user.

There are a number of differences between the full version and MW Lite, perhaps the most important of which is that MW Lite does not support Acorn's TimeCode standard.

This is used to provide a "professional' level of synchronisation" between the program and other applications and is regarded by Oregan to be unnecessary to home users. MIDIWorks Lite is available now for £99.95 (inc. VAT).

Finally, it's come to light that Oregan have decided to climb aboard the NC bandwagon and an NC version of MIDIWorks is now on the cards. As they say, watch, or more correctly listen, to this space.

Oregan can be contacted at 36 Grosvenor Avenue, Streetly, Sutton Coldfield, B74 3PE.

Tel: 0121 353 6044
Fax: 0121 353 6472
E-mail: sales@oregan.com
WWW: http://www.oregan.com

Tune of the Month

After a number of requests from readers, I've decided to start a tune of the month competition, similar to the Picture of the month on the graphics page. Thing is, this page only appears once every two months so I guess I'll have to call it Tune of the bi-month.

So, the rules are, pieces of music are welcome from anyone, in any electronic form playable on the Acorn platform. This includes Maestro files, the various flavours of Tracker files and General MIDI files. Compositions must be the work of the author sending it in so no downloading files off the 'Net and passing them on as your own.

An exciting prize (yet to be decided) will be awarded to the winner of the best piece of music sent in and the best tunes each month will hopefully be included on the cover disc for everyone to hear. Entries can be submitted on disc by post (to the usual AU address) or via e-mail to the contact below. Please mark any submissions 'Tune of the month' and include any details of how you created the music.

Contact:
You can contact me, Rob Miller, by post at: the *Acorn User* address or by e-mail me at: aumusic@idg.co.uk

A3000 upgrades

Memory

1-4Mb	£59 (69.32)
(See also the "2nd user" section)	
2-4Mb upgrade pack	£39 (45.82)
4-8Mb	£125 (146.87)

The above upgrades are all constructed on four-layer boards, as recommended by Acorn. Gold plated connectors are used for reliable contact with the A3000 main board. There are no clips or wires, and no soldering is required (except 8Mb). Full instructions supplied. Some older types of 2Mb board cannot be upgraded to 4Mb, but we offer a trade-in allowance. Please phone for details.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. Also suitable for the A3010.

120Mb	£124 (145.70)
210Mb	£135 (158.62)
340Mb	£142 (166.85)
420Mb	£152 (178.60)
540Mb	£165 (193.87)
RISC OS 3	£29 (34.07)
ARM3 (25MHz)	£109 (128.07)

(Dealer fitting recommended for the ARM3)

A3010 upgrades

Memory

1-4Mb	£59 (69.32)
1-2Mb	£29 (34.07)
2-4Mb	£49 (57.57)

The 4Mb upgrade is constructed on a compact four-layer board. No soldering is required. Full instructions supplied.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. For prices, refer to the A3000 section.

A3000 4Mb RAM £59 (69.32)

RISC PC 16Mb SIMM £37 (43.47)

RISC PC

SIMMs...(please phone for latest prices)

4Mb	£12 (14.10)
8Mb	£22 (25.85)
16Mb	£37 (43.47)
32Mb	**£72 (84.60)**

16Mb SIMM to 32Mb upgrade £45 (52.87)

(By upgrading your 16Mb SIMM to 32Mb you don't lose a SIMM socket. Original 16Mb SIMM must be returned to IFEL and the type must be suitable - most are. Please phone to check first or ask for our free leaflet.)

RAM packs for upgradable SIMMs

4Mb-8Mb	£15 (17.62)
16Mb-32Mb	£45 (52.87)

Each pack consists of 8 chips which simply plug into empty sockets. Instructions supplied, no soldering needed.

VRAM modules...

1Mb	£41 (48.17)
2Mb	**£79 (92.82)**
1Mb-2Mb upgrade	**£41 (48.17)**

A5000

Memory

2-4Mb	£59 (69.32)
4-8Mb	£125 (146.87)

Dealer fitting for the 8Mb upgrade is recommended for the 25MHz A5000.

A3020/A4000

Memory

2-4Mb	£52 (61.10)

Hard drives

210Mb	£79 (92.82)
340Mb	£89 (104.57)
420Mb	£99 (116.32)

A400/1

Memory

Per Mb (up to 4Mb)	£30 (35.25)
4-8Mb	£125 (146.87)
RISC OS 3	£29 (34.07)
ARM3 (25MHz)	£109 (128.07)

Hard drives. For prices, refer to the A310 section.

Various

Alsystems SCSI 2	£170 (199.75)
ARM3	£109 (128.07)
RISC OS 3	£29 (34.07)
MEMC1a	£35 (41.12)
MEMC1a (2nd User)	£20 (23.50)
Hard disc cradle	£6 (7.05)
Fan filters (pack of 5)	£3 (3.52)
RISC OS manuals, no vat	£22
Dongle dangle	£6 (7.05)
Chip extractor tool (for eg MEMC, ARM2)	£4 (4.70)
CDFS upgrade for Oak SCSI card	£25 (29.37)

The following item is reduced to clear. Please phone to check availability.

Wordworks	£23 (27.02)

A310

Memory

4Mb	£59 (69.32)
4-8Mb	£125 (146.87)
Backplane (4-slot, four-layer)	£35 (41.12)
Fan for above	£8 (9.40)
RISC OS 3	£29 (34.07)
RISC OS carrier board	£12 (14.10)
ARM3 25MHz	£109 (128.07)
MEMC1a	£35 (41.12)

Hard drives

1Gb IDE	£115 (135.12)
IDE controller	£59 (69.32)

2nd User

Please phone to check availability.

A3000 1-2Mb	£9 (10.57)
A3000 RAM board (ie bare board, no chips)	£5 (5.87)
A5000 2-4Mb	£38 (44.65)

Spares/Repairs

We carry stocks of most replacement chips for the Acorn range. (MEMC, VIDC, IOC and most memory devices). We can also fit any upgrades and offer a computer repair service.

How to order: The VAT inclusive amount is shown in brackets. Cheques made payable to IFEL. Most Credit cards accepted, and Switch. Official orders welcome.

Educational and quantity discount available. Dealer enquiries welcome.

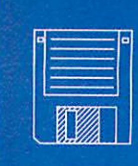
All products (except some marked "2nd User") are fully guaranteed for 12 months. All items normally carried in stock have a 14-day money-back guarantee. Please note that the cost of memory products varies - please phone for the latest pricing.

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21, Glenfield Road, Glenholt, Plymouth PL6 7LL. Tel (01752) 777106. *Fax (01752) 777830*





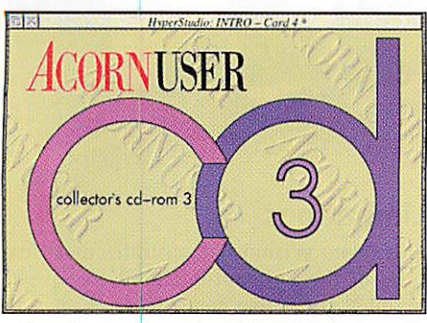


Acorn User CD3

Stephen Scott and Paul Wheatley

To run the menu straight away, double click on the !INTRO application and sit back...

This is the third *Acorn User* Collector's CD-ROM — it's the fourth actual CD on the cover but the second was for Acorn Education — and has been specially format-

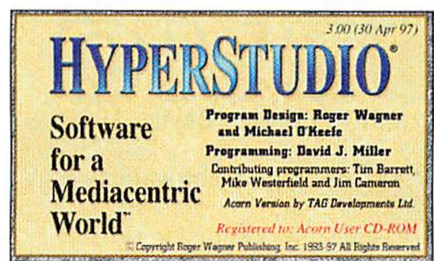


ted to be read on the PC and Macintosh platforms as well as from RISC OS — see the box for information on how to use it with PCs and Macs.

The CD utilises a user interface created using the Acorn version of *Hyperstudio 3*, available from TAG Developments, Mac and PC versions were used to ensure the interface works correctly on those machines as well. The Mac and PC versions are also available from Roger Wagner Publishing, the creators of Hyperstudio. See the !HSLICENCE file for more details.

There are two stacks you can run. The INTRO stack is just an introductory sequence, while the HOMESTACK launches the interface which will act as a starting point to your navigation around the CD.

To run the interface, copies of the Hyperstudio player software for all three formats have been provided. The Acorn version requires 4Mb of memory, and RISC OS 3.1 or higher to run properly although you can run it for a short time on 2Mb. If you have less than this amount, then you will have to access the CD directly. If you have a



4Mb machine, and find you are having memory problems, then try to free as much memory as possible, before running the interface.

All the archives have been recompressed using ArcFS2 into ArcFS archives (filetype &DDC), with the exception of certain directories, which contained zipped archives. Copies of !SparkPlug 2.25 and !ArcFS 0.73a have been provided to allow unpacking of zipped files.



The contents of zip files cannot be run directly but must be copied from the CD on to your hard disc or floppy disc and run from there. The same applies to ArcFS archives. Although programs can be run from within an ArcFS archive, there is no guarantee as to whether they will work either because of memory constraints on your machine or because they attempt to write back to the disc, which you can't do on CD or with the read-only version of ArcFS. If your are in any doubt about this, then copy the contents onto your hard or another floppy disc before running.

It is very important that you make sure you have de-archived the software, reset the computer and reloaded the software before contacting us. We get many letters and e-mails from people who have obviously not de-archived the software and have tried to run the contents from within one, resulting in various errors.

If you are running the interface, memory problems may occur when you do try to de-archive software at the same time. In this case, the interface is best used to browse the contents of the CD. When you find the item you want, quit the !HSPlayer program, and copy the program to your hard disc.

Certain pieces of software have been left



unarchived, due to their sheer size, such as the Destiny demo, so that you don't need to de-archive onto your hard disc. Most of the Gallery section can be run directly off the CD. But generally, we would not recommend doing this for some software, as some programs may attempt to save configuration files.

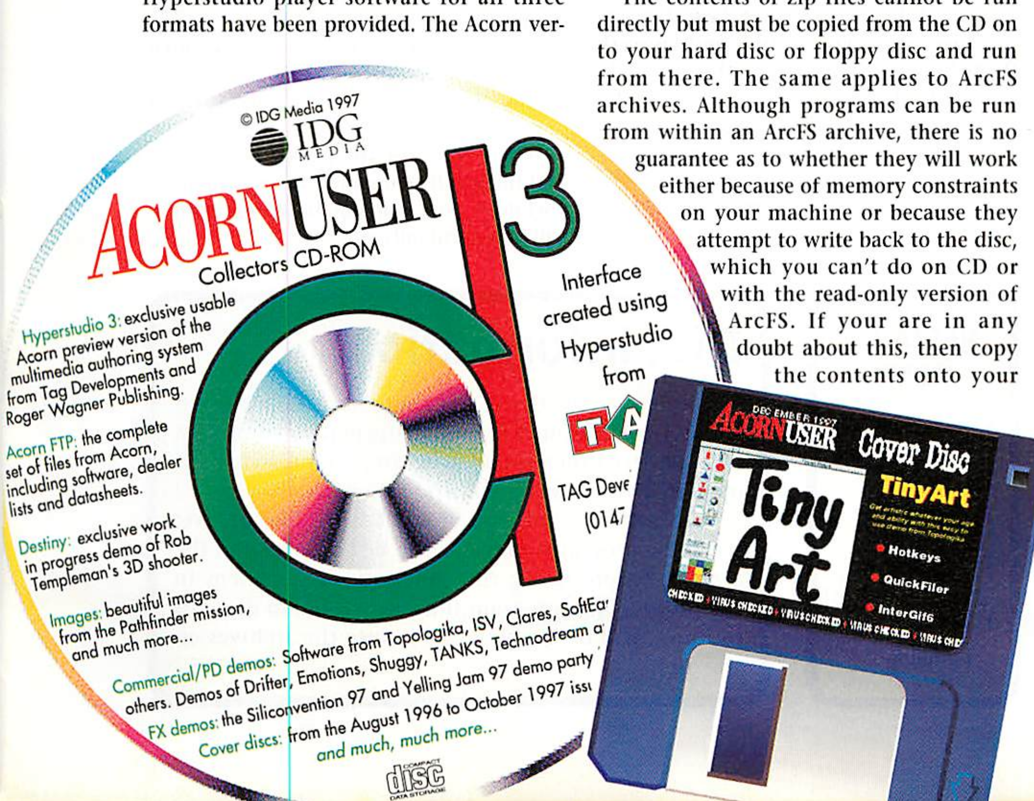
If you would like more details on how the interface was created, or to express your opinions about the CD, then please contact the author. Contact information on the !ReadMe1st.

On behalf of the staff of *Acorn User*, TAG Developments and Roger Wagner Publishing, I hope you enjoy this CD.

Using the CD with PCs and Macs

The stack files with the /STK extensions — this will appear as .STK on the Mac and PC platforms — can only run on the PC or Mac versions of the Hyperstudio Player Software. These can be found in the WINDOWS and MACINTOSH directories on this CD, depending on which platform you are viewing the CD on.

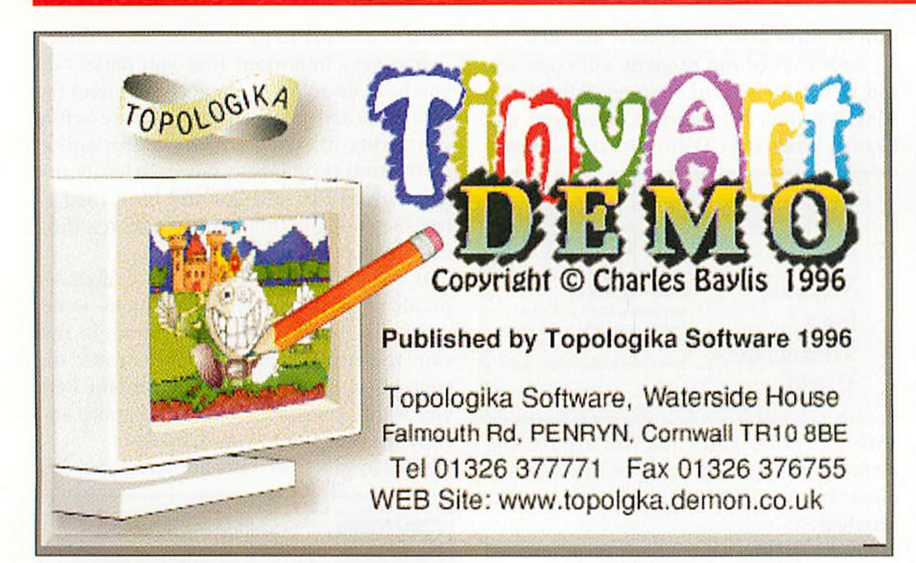
The stacks consist entirely of bitmaps, so extras such as QuickTime for Windows and so on, are not included on the CD. All you need are the Hyperstudio players safely unzipped (or un-binhexed in the case of the Mac software) onto your hard disc.





Tiny Art

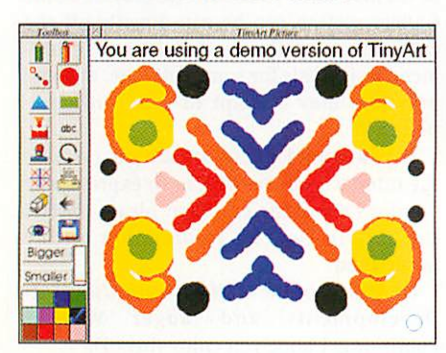
Topologika Software





The Northamptonshire Computer Education Centre's art pack TinyDraw was one of the best-selling RM186 infant art packs ever, and the Acorn RISC OS version brought it to the attention of a whole new audience. TinyArt is the follow up to the latter.

TinyArt requires an Acorn RISC OS 3 machine with 1Mb of memory, although more is recommended. It runs best in a screen mode of 256 or more colours.



Features

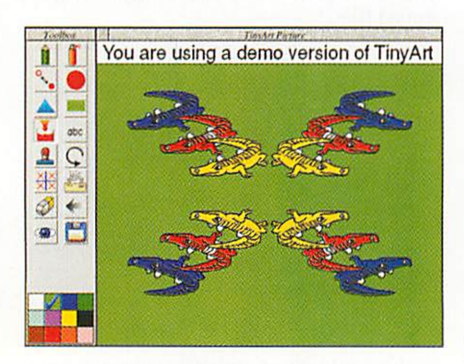
You can set up the full version of TinyArt just like TinyDraw to offer any combination of the following basic tools:

- colour menu
- pencils of different thicknesses
- a jug for filling shapes
- an undo facility
- saves, loads and prints

However, TinyArt provides lots of new configurable tools including:

- scaleable shapes and/or text (using the Sassoon font, if it's installed on your computer)
- stamps – objects which can be stamped onto a background
- symmetrical painting – horizontal, vertical or both
- rotating shapes and text but not stamps
- optional drag and drop filing
- optional fun sound effects

Three basic pre-defined sets of start-up options are provided, each of which can be

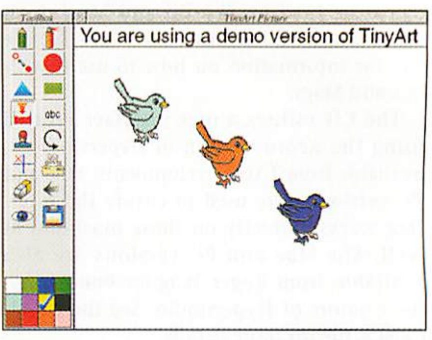


fine-tuned the way you want them. TinyArt can load in TinyDraw files and convert them into TinyArt files or into sprites. It can also load !Draw files.

TinyArt comes with a separate print utility to enable you to print TinyArt pictures even on 1Mb machines with the memory hungry printer drivers that Acorn now have to use.

Limitations

This demo version demonstrates most features of the program but some have been disabled and a few aren't there at all. You



can copy it onto your hard drive if you wish.

If you're running it from floppy you may notice that the program reads the disc now and then, mainly to access the sound effects. This can be avoided (in the full version) by turning the sound effects off or running it from a hard disc.

To view the Choices and other iconbar menu features — or to Quit — either click on the close button in the usual way, or press F9.

When you quit the program you may find the goodbye message hangs around for a while — your machine hasn't *hung up*, it will quit eventually.

REGULAR ITEMS

- All the *INFO programs
- PD selection
- Run the Risc
- C font handling

Disc information

The software on these discs has been compressed using *ArcFS 2* from VTi, and is opened by running a copy of *ArcFS* then double-clicking on the archive to open it. There is a copy of *ArcFS* on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

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ACORN USER
Collectors CD-ROM
3

Hyperstudio 3: exclusive usable Acorn preview version of the multimedia authoring system from Tag Developments and Roger Wagner Publishing.

Acorn FTP: the complete set of files from Acorn, including software, dealer lists and datasheets.

Destiny: exclusive work in progress demo of Rob Templeman's 3D shooter.

Images: beautiful images from the Pathfinder mission, and much more...

Commercial/PD demos: Software from Topologika, ISV, Clares, SoftEase, and others. Demos of Drifter, Emotions, Shuggy, TANKS, Technodream and more.

FX demos: the Siliconvention 97 and Yelling Jam 97 demo party finalists.

Cover discs: from the August 1996 to October 1997 issues.

and much, much more...

Interface created using Hyperstudio from TAG
TAG Developments Ltd. (01474) 357350

Destiny – exclusive demo to *Acorn User*. Needs 8Mb but will run from the CD-ROM. Philip Templeman's Doom-like exploration and adventure in a 3D world.

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to *TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH*. If it verifies successfully return it to the *Acorn User* editorial office at the usual address.

The *Acorn User* cover discs have been checked for viruses using *Killer* version 2.700 from Pineapple Software.



The Zetnet Solution to the Internet for Acorn Users *(and PC users, and Mac users ....)*

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At Zetnet we believe that you should be able to connect to the Internet when you want to. We believe in bringing the Internet to everybody, whether you're a techno-wizard or a techno-phobe. We'll help you contact the world, and help you establish your presence on the Internet.

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As well as providing full Internet access, Zetnet also provide a wide range of additional services, and can tailor connections to your requirements.

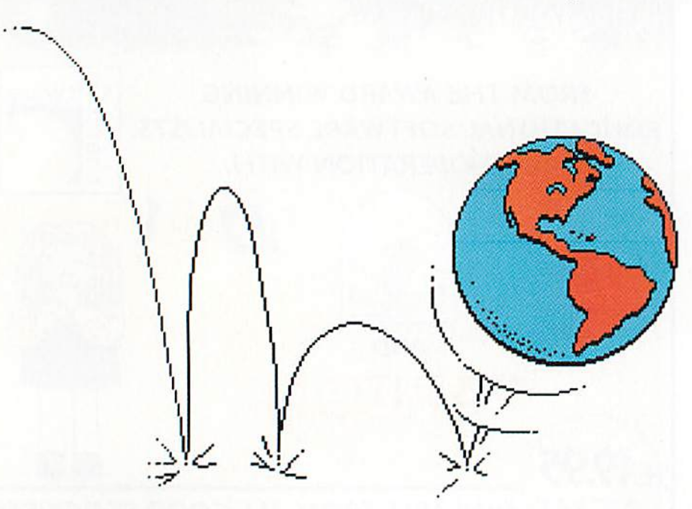
We have specially written software for users of Windows, allowing the first time user to access the Internet with the minimum of effort. It even allows you to read and write messages without being connected to the telephone line, saving money on call charges.

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Technical Support is provided free of charge between 9.00 a.m. and 8.00 p.m. Monday - Saturday as well as there being comprehensive help in our dedicated newsgroup for Acorn customers.

* Enhanced account only, standard account has 5Mb free space



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A cup of hot mocha

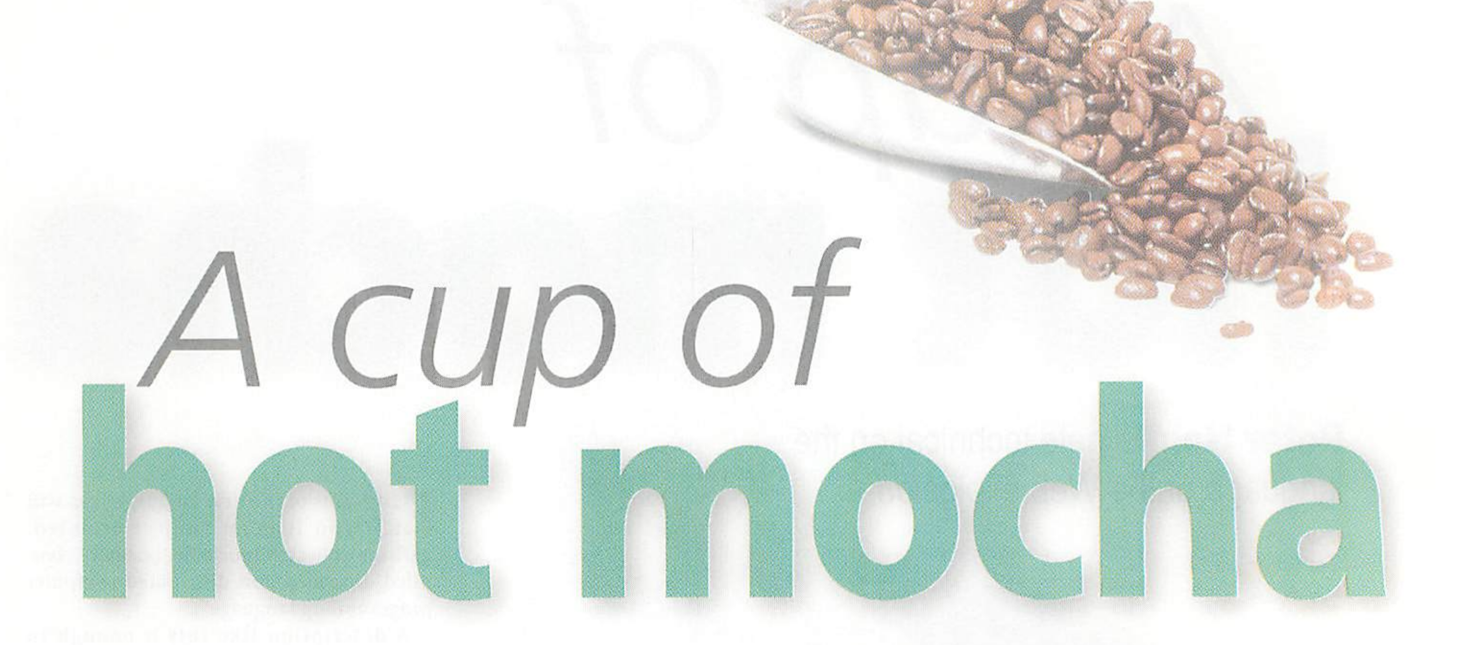
Peter Naulls gets technical on the language of the Web explosion

Exponents of the new language Java will tell you it is an "object-oriented, garbage collected, portable, partially compiled, threaded and distributed computer programming language".

A description like this is enough to make all but the most hard-core programmer have a career re-think. Yet it is because of some of these reasons that Java has become "the next big thing" and made its rise to fame nothing short of astounding.

At ➤





A cup of hot mocha

the source code level, Java appears to be no more than C or C++ with a facelift. Indeed, this is quite true; here is the infamous "hello world" program:

```
public class Hello {
   public void main(String argv[]) {
      System.out.println("world!");
   }
}
```

And a slightly more complicated example which displays part of the Fibonacci sequence.

```
public class Fibonacci {
   void main(String argv[]) {
      int count;
      int num1 = 1, num2 = 0;
      for (count = 0; count < 100;
count++) {
         System.out.println(num1) ;
         num1 += num2;
         num2 = num1 - num2;
      }
   }
}
```

I will not delve into the details of Java programming, but it is sufficient to say that the Java class construct bears a strong resemblance to the class construct in C++ and it is no coincidence that the syntax looks like C.

When this is fed into a source compiler the result is what is known as a class file. This is made from, among other things, an intermediate bytecode designed to run on a virtual machine – which is to say, assembly code for a processor that doesn't exist. An emulator for the processor has to be written for each real machine Java is to work on.

Language	Assembler	Basic	C	C++	Java
Object-Oriented?	No	No	No	Yes	Yes
Garbage Collected?	No	No	No	No	Yes
Type Safety	None	Poor	Weak	Weak	Good
Exception Handling	No	Yes	No	No	Yes
Speed	Fastest	Ok	Fast	Fast	Ok-ish
Compiled?	Assembled	No	Yes	Yes	Partially

Figure I: Some of the features present in languages commonly used under RISC OS.

Why Java?

Garbage collection refers to the memory allocation used by a computer program. When a programmer wants a chunk of workspace from the operating system, he or she will ask for it using something like the *malloc()* routine (under C) or DIM (Basic).

When the program is finished with the piece of memory, it should give it back to the operating system. Unfortunately, it can be very easy for the programmer to forget to do so, or for the reference to the piece of memory to be lost. A program which loses memory suffers from what are known as *memory leaks*.

It is the job of a garbage collector to look for these unused pieces of memory, and reclaim them for reuse. Java contains just such a garbage collector. While it is certainly possible to have a C or C++ program use an external garbage collector, it is not part of the actual language. Type safety is how well errors like mixing of floating point numbers and integers are caught. Assembler contains none, because to the computer it is simply binary numbers. Java's type-checking is good, although not great, but it's an improvement over C.

Errors which occur during the execution of a program are known as exceptions. These might occur for example, if a program runs out of memory or if a *division by zero* occurs.

In Basic you might trap these through the use of an ON ERROR statement. In C or C++ there is limited support via the signalling mechanism, which is really a hang-over from C's Unix heritage; but it isn't really part of the language, nor is it particularly easy to use. Java on the other hand contains an excellent error handling mechanism, which lets you trap certain kinds of errors, and let others "fall-through". In fact, there are some things Java insists you must trap if you carry out certain actions.

Because programs at the lowest level ➤

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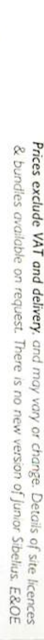
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A cup of hot mocha

➤ have to be in a machine code which is understood by the computer, hand-written assembler will, in most instances, execute faster than any higher level language. C and C++ are compiled into machine code – though not as efficiently as a human could do it (though much faster).

Java and Basic are *interpreted* (meaning the translation to machine instructions is done when the program is run), so the speed is rather slower. This speed, or lack there of, is one of Java's disadvantages – although newer JIT compilers (see below) address this.

History of Java

The actual story behind the development of Java is complicated, and varies depending on who you ask. However, a number of things are known for certain:

The story on the Javasoft site begins with a disgruntled Sun employee, who was asked to come up with a list of complaints and shortcomings when an employment offer was made to him by NeXT, a competitor to Sun.

The ensuing story is that the letter that the employee (Patrick Naughton) wrote made its way among various Sun employees, who bombarded his e-mail postbox agreeing with his sentiments. The day Naughton was due to leave, he was made a counter offer by Sun and given a team of software engineers and asked to produce something 'cool'.

This team was turned into a wholly owned company called First Person. The company eventually focused its efforts on the then (and still) emerging Interactive Television market. Sun were forced to fold First Person back into itself when a major deal fell through; however one of the things which emerged from First Person was a computer language called Oak.

Oak was designed as a cut-down replacement for C++, for use in embedded applications such as PDAs and cellphones. (As an aside, there are even suggestions that you may one day have a Java-powered toaster!).

Java is of course Oak, after a rename by Sun and was released freely to the masses in early 1994. The rest is essentially history; but two significant points in Java's history are when Netscape incorporated it into their Navigator browser, and later, when Microsoft were forced to follow suit with Explorer.

Interpreted vs Just-in-Time

Programs capable of executing Java will come in two flavours; interpreters and Just in Time compilers. A good example of an interpreter is BASIC under RISC OS. The operating system contains a module which takes the program instructions one at a time, and carries them out according to specific rules.

A Java interpreter is no different to this – Java bytecodes are taken, and instructions such as loading values from the stack, and adding two numbers together are carried out. The environment under which a Java program executes is known as a virtual machine, because it is not a real machine, but an idealised one designed to be portable to many platforms.

The other type of program under which Java can run is known as a just in time compiler (JIT). What these do is take the Java bytecode, and process it a step further into the native processor's code when the program needs to be executed. Into ARM instructions, for example.

The advantage of doing this becomes apparent when we look at the speed under which Java runs under a virtual machine. This is typically a twentieth the speed of an equivalent compiled C program because of the overhead of translating the bytecode instructions. However, by translating a piece of Java bytecode into the processor's language beforehand and cacheing it, a speed up of ten to twenty times can result.

A third option is worth mentioning, the "Java chips". These are actual processors, not unlike ARM or Intel processors. They are capable of taking the Java bytecodes directly and executing them as the processing is "hard-wired" into the chip. This may seem the fastest way to execute Java, but it is interesting to note that, in theory, a JIT compiler may be able to execute Java faster.

This might seem strange, until we consider that a JIT compiler has a chance to do a great deal of optimisation before it is turned into native code, perhaps into instructions which will perform two bytecode operations in one native instruction of the host processor. And, in case you are



wondering, ARM chips *are* such a processor; partly because the Java bytecodes bear more than a passing resemblance to the ARM instruction set, and partly because of the ARM's combined conditional instructions.

Java alternatives

When Java was originally released, there were a great many claims made about it. Some of these were downright false, others true and others Java has yet to live up to. Java will remain the focus of the computer industry because of the sheer momentum it has picked up on its trip. But there are alternatives; one of these is *Sather*.

Sather is also portable, garbage-collected, distributed, object-oriented and supports exception handling. However, Sather's type-checking is far better than Java's and under many circumstances, Sather will run faster than the equivalent C. The language was developed at the International Computer Science Institute as an alternative to C++ and other popular languages of the early 1990s.

There are other alternatives too: there is at least one other bytecode-based language floating around, and it would be entirely false to say that conventional programming languages such as C and C++ are no longer capable of demands place on them.

Conclusion

Java has a great many things going for it; a person who can program well in Java is likely to have a good chance a employment in the computer industry both now and in the next five or so years. Java is a nice language to program, but it does have some problems which have yet to be resolved.

In terms of a technology, Java is certainly well suited to small, portable programs for Internet and embedded applications. Expect to see a lot more of Java, it's here to stay for a while. AU

Java Implementations

There are a number of Java virtual machines in existence. I will detail some of them here. I won't claim that this list is comprehensive – though I know of no others.

Java Development Kit – This is Sun's own Java and this is the original. This is now at version 1.1.2. Older versions of this, namely 1.0.2, are inside Netscape's *Navigator* and Microsoft's *Internet Explorer* web browsers. This provides the Java support for these two browsers.

This is by far the most commonly used Java implementation and is available for Windows 95, Sun and Macintosh platforms.

Kaffe – Kaffe was one of the first of the JIT Java compilers. It exists for a great number of platforms, but no-one has yet attempted a port to RISC OS. A port, however, is under development for RiscBSD, a version of Unix for Risc PCs.

MOca – MOca is the Java used inside a web browser named Finale being developed for the PowerPC and 68000 platforms. There is a small possibility that both the browser and its Java will be ported to RISC OS. MOca, although it was just a Java interpreter, has recently had JIT compilation added to it.

RISCafé – This is Acorn's own Java. RISCafé is a direct port of the Java Development Kit to RISC OS. At the present time, it only appears inside Acorn's Network computers, but the current rumours circulating are that it will make an appearance at Acorn World 97. Acorn are reviving the old Acornsoft label, and intend to release a number of other products including their Web Browser and the long-awaited Replay 2.

Chockcino – This is my Java implementation. It is currently interpreted, but JIT extensions are planned in the future. I will be releasing versions for both RISC OS and for RiscBSD. It is my current understanding that RISCafé will not work on pre-Risc PCs, however Chockcino at the current time will. I am also hoping for a release date of Acorn World 97.

Contacts and information

Sun Microsystems – http://www.sun.com/

Javasoft – http://www.javasoft.com/

Java FAQs – http://www.oasis.leo.org/java/documentation/faqs/00-index.html

Kaffe Homepage – http://www.kaffe.org/

Finale Development – http://www.Finale-Dev.com/

RiscBSD Homepage – http://www.ph.kcl.ac.uk/~amb/riscbsd/

Chockcino Homepage – http://www.cs.waikato.ac.nz/~pnaulls/java/

Sather Homepage – http://www.icsi.berkeley.edu/~sather/

Sather for RISC OS – http://www.cs.waikato.ac.nz/~pnaulls/sather/



Serving *suggestion*

Nova Fisher and Charles Moir may have just what the NC needs — a killer app — as **David Matthewman** finds out

One problem with the NC, perhaps the main problem, is that most people who encounter it are already computer users. They try to use it to solve existing problems in ways that they'd use a more traditional desktop, and find the NC severely wanting in the process. It has minimal local storage, a seemingly clunky user interface and relies on a network connection to do anything useful. This is not a wrong point of view just a narrow and unimaginative one.

What the NC needs is for people to take a step back, and see that there are other ways to solve problems, and that the NC even allows solutions to problems that just weren't practical before. And, thankfully, people are starting to do just that. Two such people are Nova Fisher and Charles Moir, respectively MDs of Minerva and Computer Concepts. As reported in last issue's news, Nova and Charles have formed Zyris, a new company aimed at providing the sort of services that will make the NC very useful.

What's server-side?

Charles Moir first conceived the idea around a year ago when he saw Hotmail, a Web-based e-mail company. Hotmail was (and still is) running a service that traditionally been performed on the client machine, but running it server-side. What's more, it worked.

At the same time, Nova at Zynet was continually running into the obstacle with businesses that they couldn't get their Web pages up online: 'I was talking to a lot of hotels that desperately wanted Web pages but had no way of having a presence on the Web.'

'Originally, we were planning to do some sort of Web-based e-mail system ourselves,' adds Charles, 'but it rapidly became clear that there would be no point; we'd just be re-inventing the wheel. So we're looking at other things. Web e-mail is really just a tiny part of the services that we could offer to users of NCs.'

Both Charles and Nova are tremendously excited by the prospect of being in at the start of the NC revolution. 'It is a risk,' Charles admits, although in the tone of one who thinks the odds are very much in his favour. 'The gamble is that the market will exist and grow in a certain way in the future, and we don't really know that that's going to happen.

'I *feel* that it's an absolute, guaranteed, sure-fire thing. I know that the Internet is going to grow. I know that the consumer Internet — products like the NC — for which there is *no* market at the moment is going to exist soon. I know that Internet commerce is going to grow, despite some of the scare stories.

'This is one of the few times when you can predict the future with almost certainty: in ten, five, maybe only two years' time, most TVs will have Web browsing capabilities. Practically every major Japanese TV manufacturing company has demonstrated a prototype TV with Web browsing capabilities.

'I'm not convinced by Oracle's vision for the NCs,' says Charles of Larry Ellison's idea of replacing traditional PCs in the office. 'But *Acorn's* vision of the NC as a set-top box I think is a lot more attractive. I think they've got a good chance to make an impact there.'

Simple Web design

So to whom does Zyris hope to sell? Nova, who takes on the role of Marketing Director explains:

'We have the basic Web authoring products, from which there are a number of applications, and we have the online shops and online stores. We're going for the consumer market and for the SME (Small to Medium Enterprises) market. With the shops, you've got a lot of craft industries, and they can get their shops



and be selling their products online with very little or no computer expertise.'

Zyris developed a set of server-side tools that allow people to edit their Web pages using just a standard Web browser. One of the advantages of doing all this server-side is that the NC has a limited user interface. Zyris's base-line standard is HTML 3.2, which is Web pages plus forms. No Java, no JavaScript, and no plug-ins.

This interface is simple to learn, and it's less limiting than might appear at first sight. Take *Xara3D* — Xara's PC product for doing 3D text. The user interface on Xara3D is about as simple as they come, but it still involves dragging to move lights and the text around. Obviously you can't do this using HTML, but what you *can* do is use templates.

'Current systems are all very well for computer literate people,' explains Charles. 'Once you're used to a system like this, you forget how much learning has gone into just turning the damn machine on, even, let alone operating an HTML editing package. You've got a huge, steep learning curve of learning the OS, so no matter what Apple or Microsoft say, these machines are still far too complicated for your average user.'

Zyris has a Web page which has some sample text in a range of 3D styles and a field for your text. You enter your text and click on the style you want. A server-side version of Xara3D runs and generates a customised GIF, which it sends back to you. Some people will want the greater interactivity and control offered by the client-side program, but others won't. These others are the people who will buy NCs.

Actually, there's more. Because all these programs will be running on the same server, which is also the server that holds the Web pages, the server-side version of Xara3D can find out the background colour of the page that it's creating the GIF for, and automatically



generate a GIF that's anti-aliased to the correct colour. This happens all without client intervention — without you even being aware that it's happening — and it's well ahead of what existing client-side Web design programs will do.

Furthermore, if the client changes the background colour in the HTML editing part of Zyris's suite, the graphics can automatically be re-rendered to the correct background colour. All this is made possible because of the graphics technology brought to Zyris by its Xara and Computer Concepts background, and it's an advantage that Zyris has over just about anyone else trying this.

> **The bottom line is that we can produce a higher quality Web page easier than any other system, even client-side systems**

'The bottom line is that we can produce a higher quality Web page easier than any other system, even client-side systems. To use systems like *FrontPage* or *Fusion*, you've got to understand all the techie design issues like palette optimisation and anti-aliasing to the correct colour. Our system separates the design from the content. We get professional people in to do the design, so you can come along and say: "Yes, I like that design, but I want my content in it. My headings, my text, my photographs — but I'm not going to mess with the design."

Zyris is, as you'd expect, looking at doing deals with the people selling NCs. It can go to them and say: 'OK, so you've got an NC, but we've got some services that will really make them useful.' Charles thinks that the system should be appealing to ISPs too.

'This is something that every ISP should want, because they all give away their free Web space, but no one can ever use it. This is a tool that they can just put onto their servers.'

Businesses on the Web

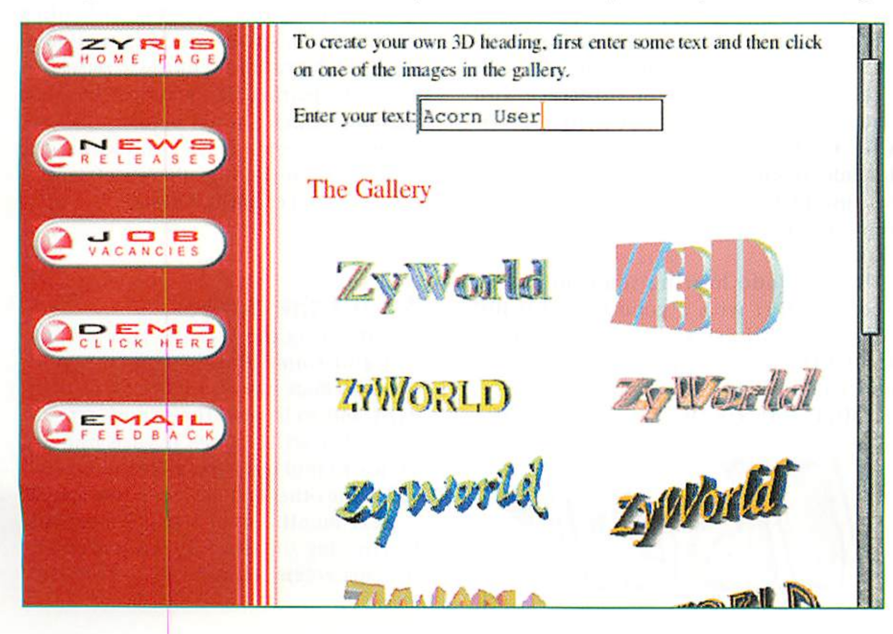
The next area of interest for Zyris is commercial Web sites for small businesses. The target here is companies that want a simple, no hassle Web presence. The company would use Zyris to house the Web site, and use Zyris's shopping cart software to collect orders.

Being server-based — and having a sever-based Web authoring tool — has a key advantage; the system suddenly becomes very attractive to businesses that don't have an Internet connection, or even a computer. As Nova says:

'I often say in the business market that it's: "So simple even the Managing Director can use it." I do have a lot of experience of marketing products into businesses. Also, with Zynet being an ISP in the last three years, and going into places where they're just installing and learning about the Internet, I do know the problems they experience and some of the solutions that they're looking for.'

'We can say to them: "Go down to your local Cyber Café or buy a cheap NC, and with that you can set up your Web pages, put your catalogue online, and all we need is a fax number to send you the orders."'

There's a catch in all this. It's all very well entering the text of your catalogue from an NC, but how is a company going to get photographs of its product range online? According to Charles, this won't be a problem. He envisages a time, sooner rather than later, when you'll be able to walk into your high street Boots or TruePrint with your holiday snaps and get them scanned and uploaded to a server at the same time as they're developed.









Serving suggestion

Benefits of server-side

Charles has identified over ten advantages of server-side development. One close to the hearts of many Acorn users will be platform independence:

'This is one of the current problems in the Acorn world,' observes Charles, wryly. 'When we looked at converting any of our Xara products back to the Acorn, it just wasn't practical. It's the same with the Macintosh.

'We made a gamble, five years ago when we started work on *Xara Studio*, in choosing the PC. Fine, it was a mistake. With hindsight, we *should* have chosen the Macintosh, although maybe given today's situation with Apple we'd have been regretting that decision now. But we looked at Apple (this was before the PowerPC), and we thought that the platform wasn't going to last another two years, let alone five.

'Anyway, the point is that it *was* a gamble, and it cost us a huge amount of money to change platforms. Developing server-side, we get portability built-in for free. we're writing to a particular standard — HTML 3.2 — that's understood by everyone on every platform.'

Other advantages include the elimination of software piracy, linked to the fact that there are no software distribution problems, because the software itself isn't distributed. Upgrade problems also go out the window. The instant that the version of the software on the server has been upgraded, everyone is using the upgrade.

'This goes back to *Wordwise*, and the trouble I had getting people to upgrade from *Wordwise* to *Wordwise Plus*. Huge numbers of people who'd bought Wordwise were saying, "But it does everything I want it to do — why would I want to upgrade?" Without fail, when they *did* upgrade, they turned round and said how great the new software was, but it's a problem getting over that barrier in the first place. This problem, again, goes away on the server-side.'

A familiar face

Apart from Nova and Charles, there's another person at Zyris who will be familiar to *Acorn User* readers: Malcolm Bird, Acorn's former technical director and now a non-executive director.

'Malcolm was responsible for *Acorn Advance*, for getting three potentially competitive companies contributing an equal share to that package,' says Charles. 'I've always respected him because he's very strong technically. He was interested in what we were doing, has a great number of contacts in the US, and was of course one of the founders of ARM.'

A return to Acorn

Although Zyris's products will certainly benefit the NC greatly, the company hopes to have a broader appeal; hopefully to anyone with a Web browser. This includes PCs and Macs, where many people will prefer the simpler user interface and template-based approach of Zyris's server-side tools. It *doesn't* at the moment include Acorn desktop machines, but only because RISC OS don't yet have a browser that implements secure sockets (as *NC Fresco* does).

It's also odd hearing someone in the Acorn market with a good word for Bill Gates, but Charles thinks that alone among the major corporations, Microsoft understands the NC's potential:

'Microsoft are the people doing the server-side distributed back engines and other things. You can see that they've got an agenda there that isn't particularly clear to the outside world — they're not making it that explicit — but you know damn well internally they know what they're doing. They're buying WebTV, putting millions into that cable network and putting all that money into the satellite networks, and you can really see that yes, the guy knows *exactly* what he's doing and what he's trying to get to ten years down the road.'

As Nova says: 'What we're doing to Web publishing is what Alan Sugar did to word-processing. He actually made it possible for anybody to use a computer; he took it into the homes of people and said it was a simple word processor. What we're doing is taking the NC and the Zyris system into homes and businesses and saying it is a simple Web publisher, albeit an extremely good one because of its graphics.

While it's ironic that the MDs of two companies that had more or less abandoned their Acorn product lines are now trying to take a central role in Acorn's new direction, there's nothing sentimental about Nova and Charles's return to the Acorn market. It's a simple business decision; which should actually be very encouraging news. If they think that the NC is going to be big, there's at least a fighting chance that it will be.



About the author

Despite being the Web designer at Xara Ltd and Computer Concepts, David Matthewman has no involvement with Zyris and welcomed the opportunity to write this article since it gave him an excuse to find out what all the noise was down the other end of Gaddesden Place.

Next month David Matthewman will be covering the giant of Acorn-oriented Internet-access, Argonet.



Business

From little

Mike Tomkinson looks at businesses that use Acorn machines

Some months ago I requested, via the Business Page, that any businesses using Acorns might like to contact me and let me use them as case studies of how Acorns are used in the running of their operations. A few weeks later I received, via the Big Giant Ed, (that's a *Third Rock from the Sun* pun), details from three small businesses.

In reality I was expecting stories about how people used computers in the business of computing, selling computers or computer programs – articles full or e-mail addresses and the Internet. The actual enterprises were more mainstream in that they use computers as productivity tools but the actual business has nothing to do with buying or selling hardware or software.

I was immediately struck not only by the diversity of the businesses and the uses to which they put their computers, but also by the way all three had striking similarities in how they came to use Acorns rather than the almost obligatory PCs. I was also struck by how they all used similar applications but perhaps that is not really surprising given the fairly restricted range of software available for we Acorn users.

This article is about those three enterprises. As I have said, none of them would describe themselves as big or even medium-sized, however that might be defined. That is not the point. A business can range from a sole trader to a multinational. What distinguishes our three is that they have at some time decided to swim against the tide which seems to be sweeping away the use of any computer other than a PC.

The pressure to conform to *industry standards* (or *habits* as I prefer to call them) is great. This is particularly so in business but is becoming increasingly so in education. The battle may already be lost and what we are witnessing is the final desperate skirmishes before we must all submit to the Microsoft monopoly.

As Acorn-based businesses tend to be small by definition then it is easy to feel that you are alone and isolated and should surrender completely to the PC. If nothing else, this article should help restore the faith – there is an alternative and you probably already own it. It is better than a PC and so is most of the software available for it. It is not without its fair share of faults but a *General Protection Fault* is not one of them. It is an Acorn.

William Jones and Son Gemmological Consultancy



Those of you of a certain age will remember with fondness a certain 1960s television programme called The Man from U.N.C.L.E. One of the many things I particularly liked about it was that U.N.C.L.E. was an organisation operated behind the front of shop. If memory serves, it was a dry cleaning business complete with a not very politically correct Chinaman.

This particular business is somewhat the same. Operating in deepest Abergavenny behind an ordinary and unassuming retail jewellery business is a real gem (forgive the pun). Gwilym Jones runs the jewellers, but in the back is a secret laboratory. At that point I will let him take up the story except to say that a Gemmological Consultancy is involved with the identification of precious and semi-precious stones and pearls. Do not feel bad as even I had to ask and I have a degree in Geology. Gwilym continues...

'We are a small (husband and wife) retail jewellery shop in a small market town in a rural area. We also run a gem identification laboratory which now has a nation-wide trade client base.

Our first computer was a BBC B purchased in 1982 – more or less because "we ought to learn something about these things". Fairly quickly a printer (9-pin dot-matrix, of course) was added and a monitor displaced the portable television set. The printer opened the world. Wow! We could print price lists and amend them without re-typing the lot – we could even print NOTICES. (Nowadays we blush with horror, remembering the things which we then thought wonderful!)

Then came a momentous decision – to buy a Z80 second processor, disc drive and, on the advice of our then accountant, accounting software. The Torch (hands up if you remember it) was installed and eventually functioned in spite of the worst efforts of the now (deservedly) defunct retailer. The accounting software, which ran on the now (also deservedly) obsolete CPN, was an unmitigated disaster – slow, complex and requiring fairly detailed knowledge of accounting methods. It rapidly defeated our best intentions and was abandoned. Fortunately Wordwise, Interword and the Watford DFS served us well, so we persisted with this computing thing!

Then came the A3000 with 800K discs and, by stages, Star 24-pin printer, Impression, SCSI 100Mb hard disc and lots of fun. Soon afterwards we thought about accounting again – saw Meadow Computers' ad for MicroTrader, went to



Acorns

see it running and discovered that it could be operated by ordinary mortals. Bought it, installed it easily and set it up with a couple of hours help from our (new) accountant.

Brilliant! MicroTrader has evolved painlessly into its present form as Enterprise Professional and continues to serve more than adequately. Similarly Impression has evolved into Publisher Plus, of which a little more later. Oregan's Archivist was added to cope with address records – a job it still does well today – and it now also copes splendidly as an index of professional journals. It took a fair number of hours to enter all the data, but a search can now be completed in seconds whereas a manual search could sometimes take a full day.

With the advent of the RISC OS machine the old Beeb became redundant – but at about this time our laboratory acquired an old Pye Unicam spectrophotometer with an analogue output socket. Now, the old Beeb had an A to D converter, so a Basic program was painfully written, born and eventually polished into usable shape. With gratefully acknowledged help from Pete Biggs its sensitivity was tweaked up and the Beeb, together with the 9-pin printer, began a new life as the output end of the Unicam. Nowadays it also has a Geiger meter hooked up and is still going strong after 15 years. (I wonder how many of the Beeb's contemporary competitors are still in regular use?)

The A3000 was eventually overloaded by software expansion, so was replaced by an 8Mb A5000 which has been, by stages, upgraded to its present half gigabyte of internal hard disc space. The 24-pin printer still churns out invoices and all the other accounting paperwork, but has been supplemented by a BJC 4000 for producing letters, notices, estimates, test reports, price lists, general stationery and what-have-you. We print much of our own stationery when only small quantities are required – with the double advantage of low outlay and easy revision. Needless to say, the material for printing is virtually exclusively prepared in Publisher, greatly aided by Adrian Look's superb Font Directory2 to handle a fairly large range of fonts – mostly Monotype faces, again from Adrian Look.

ArcFSr/w (Mark Smith/VTI) and Hard Disc Companion (Risc Developments) are used for archiving and backups – both giving excellent performance. Much of the other software constantly used is PD: !Zap (Dominic Symes), !WorldTime (Mike Ironmonger), !WimpBar (Steve Smale), !FasterAct (Ian Clark), !AddSprite (Andrew Clover) and !Finder (Jonathan Marten) have all proved reliable and invaluable.

Acorn's !Draw and !Paint more than adequately fill our graphics needs, given our very limited artistic talents!

How about a StrongARM Risc PC? Well, yes, there is one at home which will serve as a backup machine should the A5000 ever misbehave. It must be said that the speed of the StrongARM makes the older machines seem painful! (Have you seen !Copernicus drawing a full sky starmap in under two seconds?) One day we'll have one for business use, but for the present the A5000 copes very well and with acceptable speed.

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William Jones and Son, 6 Nevill Street
Abergavenny, Monmouthshire
NP 7 5AD, Tel (01873) 853429

Peter Child Woodturning Supplies and Pyrography Equipment

Our second business depends rather more on the graphical talents of Roy Child (son of Peter), its proprietor. As the business is partly mail order it relies heavily on a catalogue. This catalogue must sell the equipment in it so it has to be well produced. Roy's first catalogue was produced on a Beeb and a Juki daisy-wheel printer.

This business is probably the biggest producer and supplier of woodturning equipment for the hobbyist. The business itself is based in a picturesque part of Essex but, being largely mail order, the location is not that important. Pyrography is literally *fire writing*, usually done on wood or leather to produce a decorative effect – just in case you didn't know.



The latest business catalogue is produced entirely on an Acorn system using a mixture of Impression Publisher, Artworks, !Draw and Photodesk.

The more specialised drawings ➤

of wood turning and pyrography equipment did not exist as a convenient collection of clipart and so have had to be produced by Roy. He also produces technical manuals and advertising copy.

Again, I will let the man in charge take up the story...

I started with a Beeb and then bought one of the first A440s. Many of the diagrams were produced in !Draw. The newer ones are in Artworks. My new Risc PC enables me to use photographs which were scanned on a friend's cheap Black Widow scanner and PC and transferred in JPEG format to the Acorn on floppy. The catalogue is then sent to TJ Reprographics on an ancient 'hard card' which plugs happily into the backplane and transfers large amounts of data.

I am much more productive on an Acorn computer and dislike Windows 3.1, but I have not tried Windows 95. I do not have an accounts package but I find S-Base very useful.

One product which Roy does rate very highly is the database *S-Base* from Longman Logotron. A number of readers have recently echoed his praise of this programmable database while bemoaning the lack of support for it. *S-Base* is not currently being promoted by Longman Logotron although I am informed they are still supplying it.

Confused? You will be.

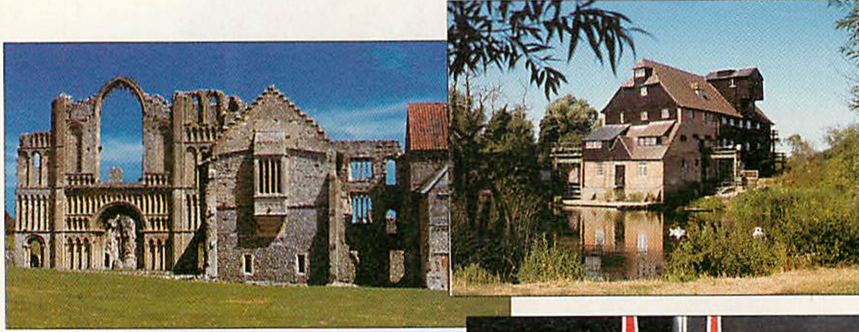
While they are supplying it, Longman Logotron are no longer supporting *S-Base* but will pass requests for support along to Simon Glass – the original programmer. This seems a very roundabout method and alternatives exist.

The simplest is to be part of the *S-Base* mailing list via the Net. I know not everyone has access but it appears to be essential in this case. To join the list you need to refer to the instructions on Simon's Web page at *http://www.bluewater.co.nz/* which has all the details. If you are part of the mailing list you can arrange to get upgrades which appear at fairly regular intervals.

CONTACT
Peter Child, The Old Hyde, Little Yeldham, Halstead, Essex CO9 4QT
Tel: (01787) 237291
Fax: (01787) 238522

Philip Mott
Freelance Photographer

Our third business is the typical sole trader – a freelance photographer. Freelance means, in this case, taking speculative photographs and making them available to magazines in the hope that they will use them and pay you. You also hope that having established a reputation they will come back and use you again. Reputation is everything so it helps to be organised. The organisation of a catalogue of your stock photography is just the sort of job that Philip uses his Acorn for.



It has certainly solved a problem for me in that Philip has provided the excellent photographs to accompany this article rather than my usual fire and forget snapshots.

I will let Philip take up the story at this point...

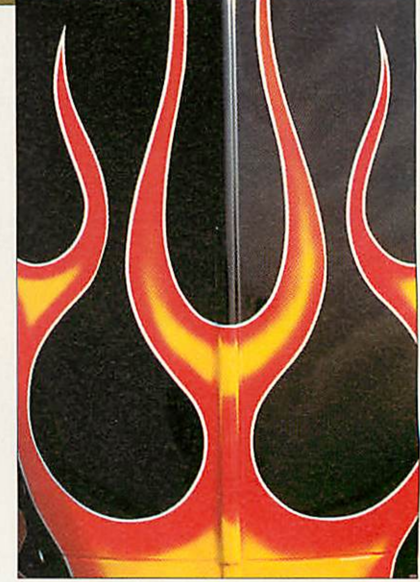
I am currently trying to earn a crust from photography, plus the odd article to try and encourage the use of my photos. Here is a rundown of the hardware and main software I use. As you will see, some of it is a bit past its sell by date and if the money was available the set up would be different.

The hardware consists of an ageing A310 bought in January 1987. It still has an ARM2 processor and the original RGB monitor. Upgrades currently installed are; IFEL backplane, IFEL 4 Mb RAM, RISC OS 3.10, Morley SCSI card and a 170 Meg hard drive. Plus a Scanlight Junior card and a hand scanner, an external Eesox CD-ROM on the SCSI and printing is via a Panasonic KX-P1124 printer.

Always running are VProtect, Font Directory2, !Alarm, and !Workspace (by Graham Crow) plus all the little custom icons, backdrops etc. The first time the machine is switched on in the day !Alarm runs !Diary and !Harry, these are a calendar, diary and To-Do list. !WorkSpace is used to set up the printer for a particular task.

The main programs are Prophet 3, FireWorks Pro, PipeDream, S-Base 2 and Knowledge 2. Text for Knowledge 2 is either keyed in or collected by scanning and OCR using Sleuth.

That's basically it. It would be nice to scan the picture and send out electronic files and also to include a thumbnail within the database program. AU



A selection of Peter Mott's work

CONTACT
Philip Mott, 11 Beaupre Ave, Outwell
Wisbech, Cambridgeshire, PE14 8PB
Tel: (01945) 772752

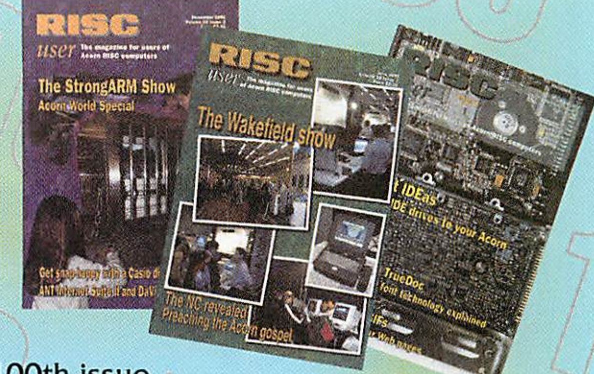
Endpoint

Certainly one enormous advantage of the Acorn computers used in each of the three businesses is the longevity of the machine. The average life of a PC before it is overtaken by old age and infirmity seems to be about 18 months in my experience. It is interesting that all three come from a Beeb background showing once again what an excellent machine this was and also that none of the businesses claim that their set-ups are ideal – just that they are better than the alternatives.

All three businesses would make changes to their current set-up. None is entirely happy with either their current hardware or software. However, all three would like to upgrade along the Acorn route and while all have seen elements of the PC world that would be useful, at this stage they are all more productive with their hard won Acorn expertise. Perhaps this last point is not made often enough – the learning curve involved the acquisition of computer skills is initially quite steep. This means a fall in productivity when learning a new system, however user-friendly it is supposed to be.

It is also interesting that the obvious advantages of e-mail and the Internet are not being exploited by any of these businesses. Perhaps the advantages are not as obvious as we are led to believe by the hype. I would not claim that the business are representative or that we can draw significant conclusions in the statistical sense. However, all three do use Acorns and are successful. Does this tell us something?

RISC User's Centenary



RISC User magazine is ten years old, and has just published its 100th issue. In its position as the leading subscription magazine devoted to all RISC OS computers, *RISC User* features articles by professional writers and by leading Acorn software developers, and has earned itself an enviable reputation for being reliable, authoritative, accurate and, above all, useful.

Aimed squarely at the Acorn enthusiast, *RISC User* contains a broad mixture of reviews, features, tutorials and practical advice. Our ongoing series on Java programming, for example, was the first such series to appear in any Acorn magazine, and we have many other useful, regular features, such as articles on DTP, graphics design, programming, the Internet, education and the Pocket Book.

Recent comments from readers

"*RISC User* is **by far** the best magazine for Acorn users. I used to take them all, but now I only get yours."
—James R. Miller

"*RISC User* must be the most informative Acorn magazine, striking a reasonable balance between technical expertise and general all-round coverage of all things to do with Acorn computers."
—Max Haltermann

"Most of the hints and tips I use in programming, and in general use of my computer, have emanated from your excellent magazine."
—Derek N. Baron

"Thank you for *RISC User*. I find that I cannot put it down for long, and keep going back to it."
—John Clarke



Free game!

Subscribe to *RISC User* and get a free* copy of

Wolfenstein 3D 

Previously a full, commercial release, priced at £30, this newly-upgraded, StrongARM-compatible version of the game is free on the magazine disc for the 100th issue of *RISC User*, along with several other goodies to fill up the three-disc set (original packaging not included).





Subscribing

A yearly subscription to *RISC User* magazine (10 issues) for new UK subscribers costs £26 (inclusive); a disc subscription is a separate purchase, and costs £50 (inclusive). Overseas readers please enquire for subscription rates.

Contact:

Beebug Ltd, 117 Hatfield Road, St Albans, Herts AL1 4JS; Tel. 01727 840303/fax 860263; email sales@beebug.co.uk

**Non-subscribers may purchase the game for £10 (inclusive); current magazine subscribers can get it for the price of a regular disc (£5·85), or for free if they renew their subscription; contact Beebug for details.*

PD paradise

Chris Jackson takes a look at the latest CDs containing Public Domain

It's been a while since any public domain CDs have been released from any of the main creators, so I was eager to take a peek at the new developments and concepts used on the latest PD CDs.

The software on both CDs reviewed has been extensively tested on the StrongARM, and although there will doubtless be some that slip through the net, all that I tested worked fine.

PDCD5

The Datafile were the first to publish a public domain CD in the Acorn market and seem to have become a dab-hand at creating the discs, bringing together the perfect ingredients to make a masterpiece, and with every release the PD CDs seem to become ever more refined.

The first thing that struck me was the absolute mass of alphabetically sorted Utilities software on the disc. This is a definite improvement on earlier versions which only contained a few megabytes of applications – this time the count comes in at 180Mb. There are also 150 archives of educational utilities and files, which will be very handy for schools.

I was impressed to see *The Alternative Way*, an Islamic religious book with a computerised front-end. *Rasmol*, a 12Mb molecular-structure simulator is on the disc and would come in very handy for grammar school chemistry teachers, it even allows you to rotate the structures.

I found the flight simulators directory rather addictive, especially those by Thunderbolt and Quantum – I couldn't keep my hands off the *F18 Hornet* game.

Disappointingly, the Project Guttenburg texts on PD CD5 – nearly 600 of them – all have cryptic filenames that are indecipherable. However this is only a minor point but it means searching for a book you need takes a little longer, unless you use the Datafile database which has a full description of the book.

The disc also boasts a copy of *Zip2000*, which allows you to play Infocom interactive adventures, 13 adventures being supplied on the disc which should keep anyone content for a few weeks.

The ARMClub2 CD index – provided as HTML pages

ARMClub2

As the name of the disc suggests, *ARMClub2* is the second public domain CD The ARM Club have released. It is superior to the original ARMClub disc, using a specially adapted version of *ArcWeb* as a better way to traverse the available files. It is obvious that a lot more thought has gone into the production of this CD-ROM sequel.

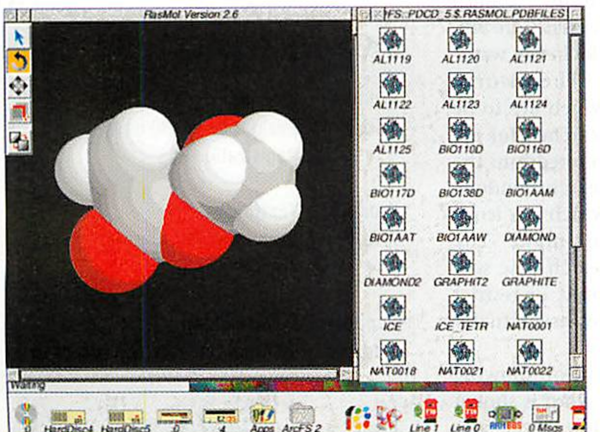
After clicking on the CD icon, a window with just six icons is presented to you, and straight away you feel that the disc is supposed to be accessed through HTML.

I was rather put off by the fact that as soon as you click on the !Catalogue icon, without warning it copies *ArcWeb* to your hard disc. I foresee problems occurring with users who have *ArcWeb* set up on the computer already.

I was glad to see a number of electronic texts on the CD, however I suspect that not as many texts were on this CD as the *PD CD5*. The ClipArt directory makes up for this though, with alphabetically listed archives of anything from apes to RiscPC keyboards.

The educational directory contains 52 files, and is quite adequate but *PDCD5* was more extensive and possibly a more useful suite of software.

A large number of disc based magazines are on the ARMClub CD, including contributions from Spectrum, the Queen Fan Club and *Frobnicate* issues 5, 9 and 10 which all contain excellent articles and graphics.



RasMol – just picture those molecules

Conclusion

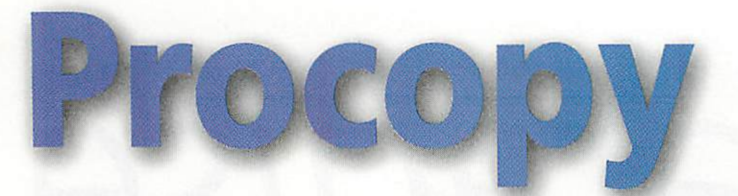
I was rather disappointed to find that there is only 463Mb and 475Mb of software on *ARMClub2* and *PD CD5* respectively. I was told both companies didn't want to 'scrape the bottom of the barrel' for software to put on the discs, preferring to cream the best software and present it in the best way, which they have both done extremely well.

PD CD5 seems to be more for the seasoned collector, and feels like a natural progression from *PDCD4*, whereas *ARMClub2* seems more like a brand new start to a series.

Overall I'd say both discs are excellent, and show just what can be done to present a mass of data in an easily accessible manner – I'd recommend both CDs to anyone.

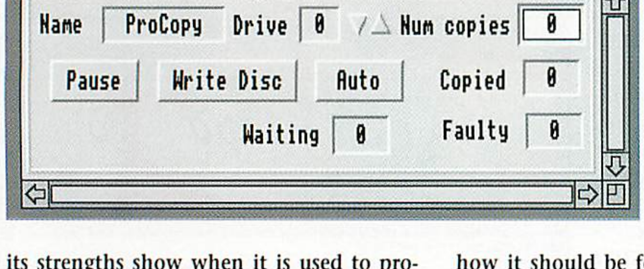
Product details

Product :	PD CD5
Supplier :	The Datafile
Price :	£17.50 inc VAT & postage
Address :	PO Box 175, Weston-super-Mare, BS23 4DE
Tel/Fax :	01934 644046
E-mail :	sales@datafile.demon.co.uk
Product :	ARMCD2
Supplier :	The ARM Club
Price :	£15 to non-members
Address :	Freepost ND6573, London N12 0BR
Tel :	07010 709849
E-mail :	info@armclub.org.uk



Procopy is a disc duplication tool available as shareware from David Holden. Although it may be used to copy discs one at a time, its strengths show when it is used to produce multiple discs.

When used to duplicate a single disc onto a formatted one, *Procopy's* operation is similar to the standard Risc OS backup command. The disc to be copied is read into memory, and then written out onto the blank formatted disc. If the destination disc is unformatted, or you want to make multiple copies, *Procopy* comes into its own – it is awash with options and features which cover virtually every eventuality.



One of the most important features of *Procopy* is the concept of disc images. Once a disc has been read into memory, it can be saved to a hard disc as a file which contains the contents of the disc, how it should be formatted and so on. A Public Domain library could store many files like this, and use *Procopy* to produce floppy disc duplicates as necessary.

If an unformatted disc is inserted into the disc drive, *Procopy* will give the option of formatting the disc – you can configure whether you are actually asked, or whether *Procopy* formats the disc without asking. The formatting process has been optimised to be much faster than performing the same operation under RISC OS. There are also other options, for example there is one which allows you to state how many errors a disc may have before it is rejected.

When writing a disc image, *Procopy* tracks how many discs you have duplicated, how many have been rejected and so on. Duplicating 50 discs is as simple as telling the program how many you want to copy, and exchanging discs until you are told to stop. *Procopy* will even check automatically whether you have inserted a replacement disc and continue the process as soon as you do.

I used this program to duplicate a small run of discs, which I usually produce by formatting the discs and copying the programs onto them in the desktop. In this situation *Procopy* is at a disadvantage as it duplicates the whole disc, and the discs I send out are usually less than half full. Despite this, the whole operation was much faster than my old method, it was much simpler as I just had to change discs when asked, and I was able to configure the software so that it rejected discs if it found any errors at all, so I could be confident that the discs I shipped were of the highest quality.

Stuart Tyrell

TextFind

Textfind is a shareware utility also from David Holden which searches for words, or combinations of words within text files. The program is intended to simplify searching documents with a large number of sections, such as PD catalogues – in fact an early version was used to enable searching of the Archive CD-ROM.

To set up a search, the files to be searched are dragged to the file list window. *Textfind* will search text files, or directories containing text files. It will also search text files within image files such as those created in ArcFS, although the file list must be modified by hand to add these to the list. David is working on an update which will enable different types of files to be searched, and which will support files which have been compressed with the Squash module (some e-mail readers store articles in this way).

The words which are to be searched for are entered into the search window, which has icons to make the search case sensitive, match whole words only, or restrict the search to whichever files are actually selected in the file window.

Once a search is started, a line showing the context surrounding the word is shown at the top of the search window. If the confirm option is selected you can choose whether the found text is to be included into the results file or not. Sometimes a single line as displayed in the search window is not sufficient in order to see the full context of the results, but there is an option which will open a window showing a few lines around the text if required.

Textfind is on the whole easy to use, and certainly does the job which it is designed for. My immediate reaction was to compare the facilities it offers with the Find utility which is supplied with Acorn's C/C++. Although *Textfind* doesn't offer the same level of wildcarded searches, it is much more "user friendly" than Find, and is very economically priced. David is continuing to develop the application, and the new filetype support will make it an essential tool for finding that elusive address within megabytes of e-mail or DTP documents.

Stuart Tyrell



Product details

Product : Procopy
Price : Evaluation for 30 days. Registration £15

Product : Textfind
Price : Evaluation for 30 days. Registration £5

Supplier : David Holden
Address : 39 Knighton Park Rd, Sydenham, London SE26 5RN
Tel : 0181 778 2659
E-mail : info@apdl.co.uk

Scottish Acorn Show

23rd November 1997

The Marriott Hotel
500 Argyle Street, Glasgow

10 am - 5 pm

Adults £2
Concession £1

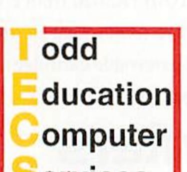


Simtec Electronics



Design IT





R-Comp

Icon Technology









CTA Direct



APDL



Creative Curriculum Software





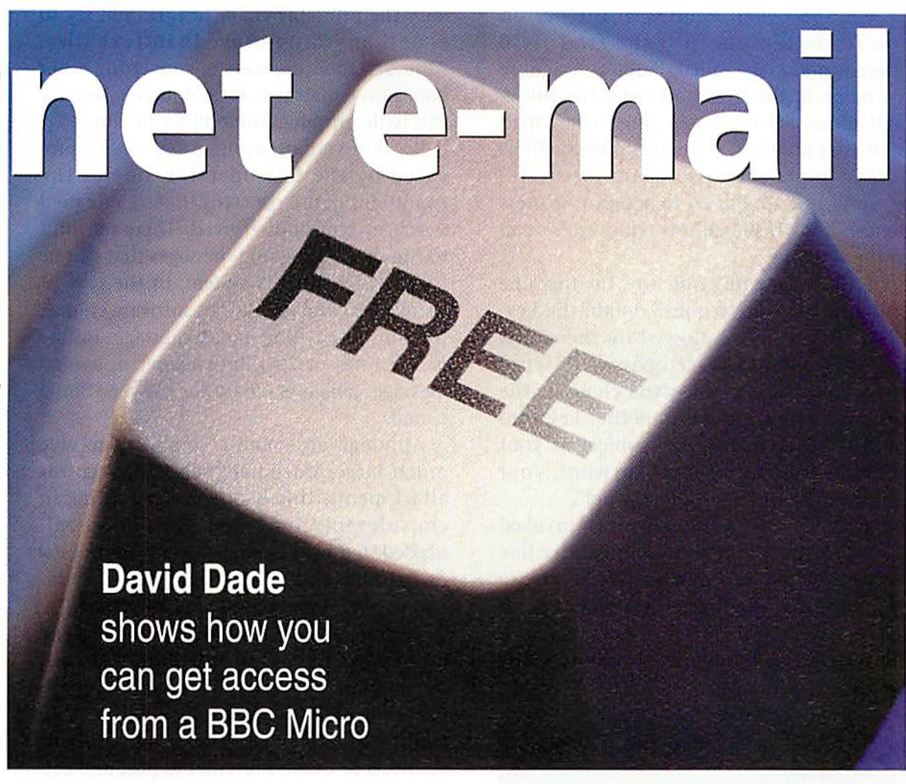




Contact TECS on 0141 644 4952 For details

WWW http://www.argonet.co.uk/tecs/show97 E-mail : sacs@argonet.co.uk

Internet e-mail for nothing



David Dade shows how you can get access from a BBC Micro

The Internet is an interwoven network of networks, able to carry vast amounts of complex data such as 3D Virtual Reality Web sites and streamed multimedia entertainment just as easily as it can carry simple text characters to form an e-mail message. Although you do need computer power and speed to enjoy the former, neither are necessary to read and write e-mail.

The Internet Service Providers are enticing home computer users to buy their Web and e-mail services, dragging away in droves those who used to use the worldwide hobbyist network of Bulletin Boards. I now find myself having to describe the FidoNet BBS network to comms newcomers as being "a bit like the Internet".

Many of the Acorn-enthusiast bulletin board operators offer free Internet e-mail, making it very easy to plug in to world communications without having to pay for all the other facilities offered by an Internet Service Provider. You only need a very basic computer and a low-cost modem to dial up a BBS and start e-mailing — even a BBC Micro could be used.

Once a first-time caller has registered (free) with such a BBS, he is given a unique e-mail address that will allow communication with others publically in Usenet newsgroups and privately by e-mail to anywhere in the world.

Currently most of the Acorn BBSs operate the same e-mail gateway software, so I'll describe how it's used by reference to the *Arcade BBS e-mail gateway*, which has been running successfully for over four years through Demon Internet.

You can choose the personal name you'd like to use for your e-mail address. This is the part before the @ symbol and should be no more than ten characters long and without any punctuation. The form of name <initial><surname> looks and works well with shorter surnames, and is less likely to have already have been chosen by another subscriber. An example might be:

`sturnbull@arcade.demon.co.uk`

The reason for the ten-character limit is that most public domain Internet software stores incoming e-mail on disc as a RISC OS file using your e-mail name as the filename, so the characters used must be legal RISC OS ones. The Arcade BBS *E-mail Gateway* also gives you a second password for increased e-mail security, and this can be a short sequence of any characters.

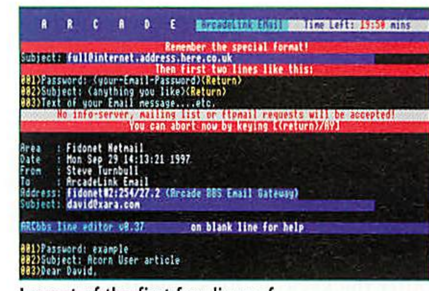
Log on to the BBS, go to the Public messaging screen, and choose the [E]-mail option, and go on to the Internet e-mail page. Take the *Gateway* Registration option if there is one and enter your chosen e-mail name and password. Some suggestions may be shown to help your choice, or you could just mail the BBS sysop with the same details if you wish.

The sysop will check the information to make sure your chosen name isn't already in use, and send you a confirmation message of your e-mail name and password with instructions on how to use the e-mail system. It's not necessary to know how the *Gateway* works to use it, but a little background might help.

The *E-mail Gateway* software converts plain text messages into e-mail, adding the special headers that Internet mail servers need to process and send-on your e-mail to the remote recipient. E-mails coming in for you are converted into individual messages and are placed in your BBS mailbox.

On Arcade BBS, you can either type in your e-mail message while you're online, or use a PD offline editor or message reader to compose it at your leisure, and then upload one file of all your e-mail to the BBS for processing by the *Gateway*. You can also reply to e-mail found in your BBS mailbox online using the [R]eply option.

Because e-mail is an add-on function to most BBS software, you always need to set out your e-mails or replies in a simple but special way so that the *Gateway* can recognise them. On the Arcade BBS Internet page a menu option for writing e-mail online illustrates how to lay out of the first few lines of your message. ➤



Layout of the first few lines of e-mail for Arcade BBS E-mail

The BBC Micro Connection

Connecting to a BBS from a BBC Micro is relatively easy but may require some investment. For hardware you will need a modem, a 9600 modem will do fine you might be able to pick one up very cheaply as they are seldom used any more. Connecting the BBC Micro is a bit tricky due to the socket, it's non-standard (nowadays) and will need to be wired up by someone who knows what they're doing.

You will also need connection software you are almost certain to need to get it second-hand if you don't have it already: Europress Software's *MiniOffice 2* is a good package whether disc or ROM-based. Other possibilities are *CommStar* and *CommSoft* which both came on ROM. There were others but make sure you get the manual as well, comms software without a manual is almost worse than useless.

Type the e-mail address of the person you're contacting into the first field offered; obliquely called "Subject:". Ignore the name of the field and enter the full e-mail address. If you're replying to an e-mail from your mailbox, the reply address will be already in place after you have pressed [R] to reply, and all you do to accept it is press Return. If *Re:* is shown it is removed for you by the *Gateway*.

On the Arcade BBS *Gateway*, the first line of the message body must contain the keyword "Password:" followed by the actual characters of your chosen password, typed in the same case as when you chose it. The next line can begin with another keyword 'Subject:' followed by the subject of your message. If you omit this keyword, your message subject defaults to "[None]".

A useful feature of the *Gateway* is invoked if you precede the text of your subject line with an asterisk, which requests a receipt to be sent back to you from the remote system stating when your message was received. The asterisk doesn't appear in your outgoing e-mail.

```
ARCbbs line editor v0.37          on blank line for help

001>Password: example
002>Subject: *Important that you read this now!
003>Dear Sheila,
```

Requesting a receipt from the remote mail server with an asterisk

Optionally you can *carbon copy* or *cc* the same e-mail to a list of up to 32 other recipients by placing another keyword "Cc:" on the next line followed by a list of e-mail addresses, and each recipient will see the other names. The list of addresses can be on one line separated by commas if not longer than 250 characters, or on separate lines with no blank lines between them.

If you don't want everyone to know who else is being sent the same message, you can *blind copy* the e-mail to the list of recipients by using the keyword "Bc:" or "Bcc:" instead, followed by the list of addresses. Do not mix visible and blind copying in the same e-mail.

```
ARCbbs line editor v0.37          on blank line for help

001>Password: example
002>Subject: Your comments required.
003>Cc: bambuj@bloggs.co.uk,james.read@hello.co.uk,david.bean@slicer.co.uk
004>bdmanage@bloke.com,gleniw01@fiddich.co.uk,tawfink@glin.com,helenw@aol.com
005>Dear Everyone,
006>Please read the following and let me have your comments:
007>
008>Agenda
009>------
010>
011>1) Minutes of last meeting
```

How to set up carbon copies

After any copies, the final keyword you can use is "Reply-To:" at the start of the next line, followed by any other e-mail address at which you are permitted to receive mail. This enables replies to be delivered to another e-mail account you might have; for instance a club e-mail address, or to your e-mail account at work.

```
ARCbbs line editor v0.37          on blank line for help

001>Password: example
002>Subject: Can you send me the details?
003>Reply-To: aueditor@idg.co.uk
004>Dear Stuart,
005>I am now in a position to deal with this, so please let me have the full
006>report on the project.
007>
```

Adding a Reply-To: keyword and address

After the keyword lines, add the text of your e-mail starting on a new line, using only the printable characters. Do not try to e-mail anything other than text files. Although there are ways of converting other data into e-mail text format, this is beyond this basic introduction to BBS e-mailing.

Because you are using a free service provided by the BBS operator, one of the conditions of use concerns the size of e-mail messages sent and received. There's a limit to the size of outgoing messages that can be handled by the BBS system; in the case of Arcade BBS and its ARCbbs software engine, the limit for typing e-mail messages online is 399 lines or 29 Kilobytes per uploaded message, which is plenty for conversational e-mail.

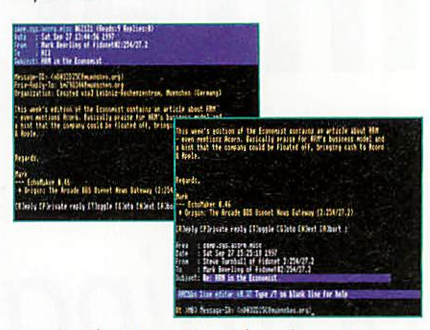
Although an e-mail account can receive much larger documents and files sent as attachments, this is discouraged as it can considerably lengthen the phone call needed to download the e-mail from the ISP to the BBS, and large documents are difficult to read from your BBS mailbox.

If you make a mistake in typing the address or password, the *Gateway* will return your message with an error report, otherwise you'll receive a timed posting confirmation message. The Arcade *Gateway* connects to Demon Internet to post and collect e-mail early in the mornings and again in the afternoon.

The *Gateway* also gives two-way access to usenet newsgroups, and most of the Acorn-interest groups in the comp.sys.acorn family are offered on Arcade and other Acorn BBSs. These groups are found in the public message bases or echomail areas of the BBS. You don't need to have a BBS e-mail address to read and write newsgroup articles, but it helps if you want to receive private replies to public postings.

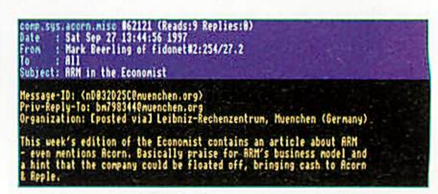
Unfortunately when you post to public Internet newsgroups, you risk receiving Unsolicited Commercial E-mail (UCE); junk e-mail is almost unavoidable these days, but the *Gateway* tries to help by disguising your e-mail address when you send articles to newsgroups. Your e-mail address is shown in a form that can easily be read by a human respondent, but is not so obvious to automatic junk e-mailers trawling through newsgroup messages for fodder.

When replying to newsgroup articles on a BBS using the *Gateway*, use this simple method that helps other readers keep your contribution to a subject thread in context with the previous article. Each newsgroup article header contains a unique reference number, called its *Message-ID*, and a list of article numbers or references of the thread of replies to the original message, called the *References*.



Quoting the Message-ID to keep in context

By quoting the complete Message-ID of the article replied to in the first line of your response, the *Gateway* is able to link your message to the previous article. Quoting is the term used for reproducing part of another message in order to remind readers of the content you want to comment upon.

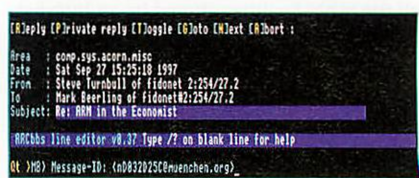

comp.sys.acorn.misc #62121 (Reads:9 Replies:0)
Date : Sat Sep 27 13:44:56 1997
From : Mark Beerling of fidonet#2:254/27.2
To : All
Subject: ARM in the Economist

Message-ID: <nD832D25C@muenchen.org>
Priv-Reply-To: bm798344@muenchen.org
Organization: [posted via] Leibniz-Rechenzentrum, Muenchen (Germany)

This week's edition of the Economist contains an article about ARM
- even mentions Acorn. Basically praise for ARM's business model and
a hint that the company could be floated off, bringing cash to Acorn
& Apple.

The Message-ID field shows up on the first line

On Arcade BBS you press [/Q] for 'Quote' mode, and then '/' and '-' to move forward and backward through the lines to quote. The Message-ID is shown on the first line of a Gateway-provided article, so when you [R]eply it's easy to quote it online with [/Q] and Return.



Now we've pressed [R] and then quoted with [/Q]

Bulletin Boards can still provide a great free service for Acorn comms users, and you get the added attractions of a full filebase, friendly clientele, and a highly-motivated skill base of users. Bulletin Boards can't fight the Internet, but they can compete. AU

Acorn BBSes

Some of the Acorn BBSs around the country that offer free Internet e-mail:

Arcade BBS	London	+44 181 655 4412 +44 181 654 2212
Arctic BBS	London	+44 181 903 1309/1308
Digital Databank	Welwyn	+44 1707 329306/323531
Mossoft BBS	Peterborough	+44 1733 701501
Northern ARM	BBS Bradford	+44 1274 530831/530841
The 23rd Hour	Poole, Dorset	+44 1202 602776

FAX ORDERS (24HR): 01728 621179

CASTLE TECHNOLOGY

PHONE ORDERS: 01728 621222



SCANFLAT II SCSI SCANNER

From £179

High quality flatbed scanner



The single pass high quality Scanflat II range of A4 flatbed scanners is a new and improved version of the highly successful Scanflat series. With a new compact footprint to save space, improved scanning speeds and quiet operation, the Scanflat II provides both quality and ease of use for the busy office or classroom. Available now in 600dpi and 800dpi versions.

- Scanflat II has 400x290mm footprint
- Line art, grey or 24-bit colour modes
- Pre-scan colour/brightness control
- Free ImageMaster Software & TWAIN driver
- PC SCSI interface & software kit £45 extra
- SCSI cable included
- Full 1 year guarantee
- New! Parallel port versions now available!

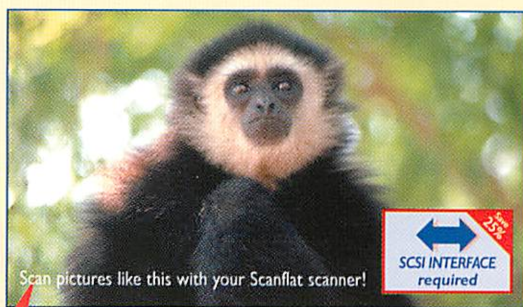


Scanflat II Transparency adaptor



Scanflat 1200

Price in brackets includes VAT	Scanner	Transparency Adaptor
Scanflat II 600 (600dpi)	£179 (£210.33)	£149 (£175.08)
Scanflat II 800 (800dpi)	£229 (£269.08)	£149 (£175.08)
Scanflat 1200 (1200dpi)	£299 (£351.33)	£199 (£233.83)



Scan pictures like this with your Scanflat scanner!

COMBO CASE FOR SCSI DEVICES

£60



The unique expandability of SCSI makes it so easy to install extra SCSI hardware, and Castle Technology is delighted to be able to make this product available to the Acorn user. The Combo Case's two standard 5.25" size bays and robust construction provide a flexible and long-lasting carrier for your SCSI peripherals.

FREE INSTALLATION! When Combo Case is purchased we will install SCSI devices absolutely FREE!



Suitable SCSI devices include: hard drives, CD-ROM, MaxIT, Nomai, SyQuest, Panasonic PD, Zip etc

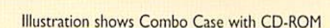
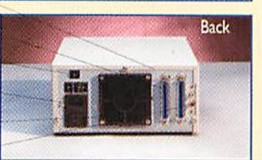


Illustration shows Combo Case with CD-ROM

- Slot 1
- Slot 2
- SCSI terminator
- 25/50 way SCSI cable
- Own internal PSU
- SCSI in & expansion
- SCSI ID selectors
- Daisychain power
- Whisper-quiet fan
- Phono output (to hi-fi etc)





Combo Case £60 (£70.50 inc VAT)



MPEG PLAYER (SCSI)

£249



The SMD-100 Video CD MPEG decoder can be used as a stand-alone unit connected to a SCSI CD-ROM drive or as a device in a chain of SCSI peripherals connected to your Acorn. The unit can be connected to a SCART TV or an Acorn 15kHz monitor to play your VideoCD film in 24-bit colour and 16 bit stereo.

- FREE - Video CD (film)
- SCART / monitor cable £12 (£14.10) (specify model)

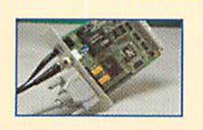
Save 25% SCSI INTERFACE required

- Decodes CD-i and Video CD
- NSTC and PAL compatible
- Requires 2x SCSI CD-ROM or faster
- Use with SCART TV screen or some RGB monitors
- I/R remote control included
- GENLOCK 'In' socket

MPEG Player £249 (£292.58)

ETHER SCSI CARD





A unique two-in-one solution from Castle Technology's New Products Team providing both networking and expansion on one card. For all Acorn computers (except A30x0 / A4000).

- Access, Omniclient, AUN etc compatible
- Co-ax and twisted pair ethernet sockets
- Internal and external SCSI ports
- Acorn DC14 compliant
- Conserves precious slots

10baseT	£148 (£173.90)
10base2	£168 (£197.40)
Combo (10baseT & 2)	£180 (£211.50)

REMOVEABLE SCSI DRIVE KITS

£29 EACH

Fit your new drive in just a few minutes with our easy-to-use kits:

SCSI full fitting incl 1st case	£29	£34.08
IDE full fitting incl 1st case	£29	£34.08
Extra cases	£10	£11.75

- Suitable for RiscPC & A7000
- Mounts any 3.5" SCSI or IDE drive
- Fits 5.25" bay
- SCSI or IDE





A305 A310 A440 A410/1 R140 A540 R260 A3000 A5000 A3010 A3020 A4000 A4 RiscPC600 RiscPC700 A7000

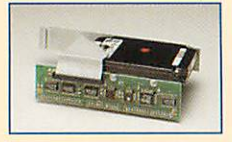


PHONE ORDERS: 01728 621222

CASTLE TECHNOLOGY

FAX ORDERS (24HR): 01728 621179

IDE HARD DRIVES



FROM £90

Get one of our IDE hard drives and increase the power of your Acorn. Fit it yourself - no special knowledge is required and no extra parts are needed. Just connect and go!

- Risc OS 3.1 required for A310 / A400 / A3000
- Uses Risc OS 3.1 for full compatibility
- All drives formatted and soak tested
- Full 1 year guarantee

2.5"

Computer Model	120Mb inc interface ex VAT	120Mb inc VAT	400Mb inc interface ex VAT	400Mb inc VAT	Interface only ex VAT	Interface only inc VAT
A3020	£90	£105.75	£120	£141.00	£8	£9.40
A310/A400	£138	£162.15	£168	£197.40	£72	£84.60
A3010	£129	£151.58	£159	£186.83	£60	£70.50
A3000	£129	£151.58	£159	£186.83	£60	£70.50

3.5"

Computer Model	500Mb ex VAT	500Mb inc VAT	1Gb ex VAT	1Gb inc VAT	2Gb ex VAT	2Gb inc VAT
A4000/5000	£99	£116.33	n/a		n/a	
A7000, RiscPC	£99	£116.33	£129	£151.58	£179	£210.33

IDE CD-ROM DRIVES

FROM £79

High quality CD-ROM drives for internal fitting. Cable, screws & driver software included

	12x speed		24x speed	
A7000	£79	£92.83	£99	£116.33
RiscPC	£79	£92.83	£99	£116.33



ERGO KEYBOARD

£99

Specially made for the Acorn range, an ERGO keyboard will breathe new life into your computer system.

A7000 & RiscPC £39 (£45.83 inc VAT)
All others £99 (£116.33 inc VAT)

- Modern ergonomic design
- 102 key PC style UK layout
- Fully Acorn compatible
- MEDE™ mouse emulation
- Min. operating life: 30 million ops



FLOPPY DRIVES

£30 EACH
(not A300 series)

Specially manufactured replacement floppy disc drives for all Acorn computers:

A400/A540/A3000 (800Kb discs supported)	£30	(£35.25 inc VAT)
A4 (1.6Mb & 800Kb discs supported)	£79	(£92.83 inc VAT)
RiscPC/A3010/A3020/A4000/A5000/A7000 (1.6Mb & 800Kb)	£30	(£35.25 inc VAT)



MOUSE FOR ALL ACORNS

£15 EACH

Dynamic Acorn-compatible mouse for fast easy use. Smooth action and easy maintenance make this a top all-round performer. Please specify your computer when ordering.

- Comfortable hand position
- Easy maintenance
- A7000 version available

Mouse	£15	(£17.63 inc VAT)
Heavy mouse ball (Pkt 10)	£15	(£17.63 inc VAT)



MONITOR

SAVE £50

SPECIAL OFFER! - limited period only



ACORN AKF50 monitor
This high quality 14" monitor is suitable for all pre-RiscPC computers. Normal price **£249**

- 0.28mm high resolution screen
- Multi-scan
- Low Radiation
- 15-48kHz. scan rate



MEMORY UPGRADES FOR ALL ACORNS

FROM £25

VAT incl price in RED	A300/A400/A540/R140		A5000		A3000		A3010		A3020/A4000/A4		*NOTE
1-2Mb	-		-		£35*	£41.13	£25	£29.38	-		A3000 1-2Mb upgrades are recycled units
2-4Mb	-		£69	£81.08	-		£75	£88.13	£50	£58.75	
1-4Mb	£185	£217.38	-		£75	£88.13	£99	£116.33	-		
4-8Mb	£299	£351.33	£299	£351.33	£199	£233.83	-				
RiscOS 3.11	£25	£29.38	£25	£29.38	£25	£29.38	-		-		
	2Mb VRAM		4Mb DRAM		8Mb DRAM		16Mb DRAM		32Mb DRAM		Call for latest prices!
Risc PC / A7000 Memory	£89	£104.58	£20	£23.50	£29	£34.08	£59	£69.33	£99	£116.33	

CASTLE TECHNOLOGY
01728 621222

Delivery £10 (£11.75 inc VAT) per order.
VAT inclusive prices are in *red*.
Cheques (allow 5 working days to clear), debit cards (Switch & Delta), credit cards (2% charge may apply). Educational orders welcomed.
All trademarks acknowledged. E&OE



CASTLE TECHNOLOGY
Ore Trading Estate Woodbridge Road
Framlingham Suffolk IP13 9LL
e-mail: sales@castle-technology.co.uk
Web: http://www.castle-technology.co.uk.

A305 A310 A440 A410/1 R140 A540 R260 A3000 A5000 A3010 A3020 A4000 A4 RiscPC600 RiscPC700 A7000



CTA DIRECT

Mail Order Specialists





Curriculum Training Associates
Dept. AU12, 34a Coach Road
Astley, Tyldesley
Gtr Manchester
M29 7ER

EMAIL: sales@cta.u-net.com http://www.cta.u-net.com **Tel - 01942 511000** Fax - 01942 749325

**** 9.1Gb SCSI £599 + vat ** A30X0 8x CDROM £99.00+vat (requires suitable i/f) ****

233Mhz RiscPC System Offers

20/20 Finance NOW AVAILABLE

MYSTERY PROMO- Choose from

??? RING and SEE ???

RPC SA 2M+16M/2.1G/16x CD & 17" monitor for only £1895 inc VAT

RPC SA base models from £1099.00 inc VAT

RPC 700 base model from £999.00 inc VAT

AND we will match or beat your best offer!

2nd User systems Available please ASK

A7000+ System Offers

A7000 +16M / 1.2G / 8xCD /15" mon & Stereo Spk for only £1175 inc VAT

Please ask for other combinations

Network Computer Offers

Basic modem or 10baseT units from only £385 + vat (£452.38)

Please ask for other combinations

EXTENDED WARRANTYS

RPC 3 yrs only £200 + vat (£235.00)
RPC 5 yrs only £400 + vat (£470.00)
A7000+ 3 yrs £80 + vat (£94.00)
RPC 5 yrs only £160 + vat (£188.00)

RiscPC PC Cards

	With RiscPC or Separately
DX4-100	£233.99 inc VAT
586-100 (Acorn)	£350.99 inc VAT
586-133 (CTA)	£350.99 inc VAT
586-133 (CJE 512)	**£360.00 inc VAT**

POWERED SPEAKERS

	Ex. VAT	Inc. VAT
80 watts with PSU	£16.98	£19.95
240 watts with PSU	£33.19	£39.00
Subwoofer 50 watts with PSU	£49.00	£57.58
Comms System Mic/Headphones	£8.50	£9.99

Canon BJC 4100 Printer

only £149.00 (£175.08) inc Vat

THE BEST! PRINTER PRICES

(Please ring for latest prices)		Ex. VAT	Inc. VAT
Canon BJ30W portable mono		£139.00	£158.63
Canon BJC70W portable col.		£159.00	£186.83
Canon BJC 240	A4	£129.00	£151.58
Canon BJC 250 **NEW**	A4	£129.00	£151.58
Canon BJC 620 colour	**A4**	**£189.00**	**£222.08**
Canon BJC 4100 colour	**A4**	**£149.00**	**£175.08**
Canon BJC 4200 colour	**A4**	**£169.00**	**£198.58**
Canon BJC 4550 colour	**A3**	**£269.00**	**£316.08**
Epson Stylus 200 mono	A4	£115.00	£135.13
Epson Stylus 300 colour	A4	£119.00	£139.83
Epson Stylus 400 colour	A4	£153.00	£179.78
Epson Stylus 600 Colour	A4	£219.00	£257.33
Epson Stylus 800 Colour	A4	£309.00	£363.08
Epson Stylus Pro XL+	A3+	£485.00	£569.88
Epson Stylus 1520 Colour	A3	£625.00	£734.38
HP 400 L **NEW**	A4	£99.00	£116.33
HP 400 colour	A4	£119.00	£139.83
HP 670C Colour	A4	£129.95	£152.69
HP 690C Colour PLUS	A4	£169.00	£198.58
HP 870CXI Colour	A4	£219.00	£257.33
HP LASERJET 6L		**£249.00**	**£292.58**
HP LASERJET 6P		£499.00	£586.33

FREE Acorn driver by request

MICE & KEYBOARDS

	Ex. VAT	Inc. VAT
Acorn Original Mouse	£25.00	£29.38
Acorn Replacement Mouse	£12.00	£14.10
Ergo Keyboard for RiscPC	**£29.00**	**£34.08**
Ergo Straight split for RiscPC	**£25.00**	**£29.38**
Archie Keyboard (high grade)	£99.00	£116.33

IDE HARD DRIVES AND SUB-SYSTEMS *WHY PAY MORE???*

A3000/A3010 Hard drives

	Ex. VAT	Inc. VAT
Internal 60/85 Mb	£ 99	£116.33
Internal 170 Mb	£109	£128.08
Internal 210 Mb	£119	£139.83
Internal 340 Mb	£129	£151.58
Internal 420 Mb	£139	£163.33
Internal 512 Mb	**£149**	**£175.08**
Internal 700 Mb	£159	£186.83
Internal 850 Mb	£169	£198.58
Internal 1 Gb	£179	£210.33
Internal 2 Gb	£229	£269.08
Internal 3 Gb	£249	£292.58

External A3000 add £20.00 +VAT

A3020 Hard drives

	Ex. VAT	Inc. VAT
85Mb	£49	£57.58
170Mb	£59	£69.33
210Mb	£69	£81.08
340Mb	£79	£92.83
420Mb	£89	£104.58
512Mb	**£99**	**£116.33**
700Mb *	£159	£186.83
850Mb *	£169	£198.58
1Gb *	£179	£210.33
2Gb *	£229	£269.08
3Gb *	£249	£292.58

* includes CD ROM interface

A4000/A5000/A400

	Ex. VAT	Inc. VAT
540Mb	**£80**	**£94.00**
850Mb	***£143**	**£168.03**
1.2Gb	***£157**	**£184.48**
1.7Gb	*£177	£207.98
2.1Gb	***£187**	**£219.73**
2.5Gb	*£135	£163.33
3.2Gb	*£149	£175.08
4.0Gb	***£179**	**£210.33**
5.1Gb	****£225**	**£264.38**
6.4Gb	****£255**	**£299.63**

* inc. internal removable HD & CD ROM i/f

RPC/A7000

	Ex. VAT	Inc. VAT
540Mb	**£80**	**£94.00**
850Mb	**£85**	**£99.88**
1.2Gb	**£89**	**£104.58**
1.7Gb	£109	£128.08
2.1Gb	**£119**	**£139.83**
2.5Gb	£127	£149.23
3.5Gb	£149	£175.08
4.3Gb	**£169**	**£198.58**
5.1Gb	**£209**	**£245.58**
6.4Gb	**£255**	**£299.63**
6.4Gb*	**£225**	**£264.38**

*(5.25" IDE)

IDE CD-ROMS (Internal) (External*)

	Internal	External*
24x Speed	**£69 (£81.08)**	**£129** (£151.58)
16x Speed	**£59 (£69.33)**	**£109 (£128.08)**
12x Speed remote control	**£59 (£69.33)**	**£109 (£128.08)**
8x (3.5 driver £12+ vat)	£49 (£57.58)	£99 (£116.33)

* requires Simtec I/F available separately (£69 inc)

IDE internal fitting kit £5 +vat

SCSI CD-ROMS (Internal) (External*)

	Internal	External*
24x Speed	**£99 (£116.33)**	**£149** (£175.08)
16x Speed	**£85 (£99.88)**	**£139 (£163.33)**
12x Speed	**£75 (£88.13)**	**£129** (£151.58)

*** includes SCSI I cable, SCSI II cable £5 (£5.87) extra**

Internal SCSI fitting kits from £10 + vat

Removable SCSI Housing Unit £20.00(£23.50)

IDE Removable (Internal*) (External*)

	Internal*		External*	
ACORN LS120 Mb	POA	(POA)	N/A	
Zip 100mb	£100	£117.50	£149	£175.08
EZflyer 230Mb	**£110**	**£129.25**	**£110**	**£129.25**
SyJet 1.5G	**£239**	**£280.83**	**£289**	**£339.58**

* requires Simtec I/F available separately (£69 inc)

SCSI Removable (Internal) (External*)

	Internal		External*	
Zip 100mb	£100	£117.50	£100	£117.50
EZflyer 230Mb	**£110**	**£129.25**	**£110**	**£129.25**
Nomai 135/270/540/750Mb	**£169**	**£198.58**	**£229**	**£269.08**
Jazz 1Gb SCSI	**£254**	**£299.00**	**£299**	**£351.33**
SyJet 1.5G	**£239**	**£280.83**	**£289**	**£339.58**

*** includes SCSI I cable, SCSI II cable £5 (£5.87) extra**

IDE Interface Adapters

Simtec 8 bit	£58.72	£69.00
Simtec 16 bit	£58.72	£69.00
RapIDE32	£119.00	£13.83
Removable IDE Housing Unit	£20.00	(£23.50)

SCSI Interface Adapters

Castle Storm 8 bit	(A30x0 int)	£88.00	£103.40
Castle Storm 16 bit	(podule)	£96.00	£112.80
Castle Storm 32 bit	(podule)	£128.00	£150.40
Powertec 32 bit	(podule)	£170.00	£199.75

Removable Parallel Port Hard drives

Zip 100mb (PC only)	£100	(£117.50)
Zip 100mb (Acorn & PC)	**£139**	**(£163.33)**
EZflyer 230Mb (PC or Mac only)	**£139**	**(£163.33)**
EZflyer 230Mb (Acorn & PC)	**£179**	**(£210.33)**

SCSI HARD DRIVES

600Mb	**3.5"SCSI**	**£85.00**	**(£99.88)**
1.2Gb	3.5" SCSI	£139.00	(£163.33)
2Gb	3.5" SCSI	£169.00	(£198.58)
3.2Gb	**3.5"SCSI**	**£229.00**	**(£269.08)**
4.3Gb	3.5" SCSI	£255.00	(£299.63)
6.4Gb	3.5" SCSI	£339.00	(£398.33)
9.1Gb	3.5" SCSI 7200rpm	£599.00	(£703.83)

Removable Drive Media

	Ex. VAT	Inc. VAT
100mb Zip Drive Disk	£11.00	£12.93
120mb LS120 Drive Disk	£11.00	£12.93
135 Syquest 3.5" cartridge	£21.00	£24.68
230 EZflyer Cartridge	£19.90	£23.38
1Gb Jazz Drive Disk	£68.00	£79.90
1.5Gb Syjet Drive Disk	£68.00	£79.90

COLOUR SCSI SCANNERS

SCSI Flatbed A4	**600dpi (4800dpi)**	**£149.00**	**(£175.07)**
SCSI Flatbed A4	**800dpi (7200dpi)**	**£249.00**	**(£292.57)**
SCSI Flatbed A4	**1200dpi (9600dpi)**	**£299.00**	**(£351.32)**
Imagemaster & Twain for above		£49.00	(£57.58)

FLOPPY DISKS @20p !

	Ex. VAT	Inc. VAT
DD Re-label Acorn fmt 10 pk	£2.00	£2.35
DD Re-label Acorn fmt 100 pk	£17.02	£20.00
DD bulk 10 pack	£2.00	£2.35
DD bulk 100 pack	£17.02	£20.00
HD Re-label Acorn fmt 10 pk	£2.00	£2.35
HD Re-label Acorn fmt 100 pk	£17.02	£20.00
HD bulk 10 pack	£2.00	£2.35
HD bulk 100 pack	£17.02	£20.00
HD Branded 10 pack	£3.50	£4.11
20 cap Disk Box	**£1.69**	**£2.00**
40 cap Disk Box	**£2.54**	**£2.98**
100 cap Disk Box	**£2.98**	**£3.50**

Printer Ribbons, Inkjet Cartridges, New/Recycled Laser Toner Carts

Prices available on request

X-Files Mouse mats £6.95 inc

(£25.00 inc vat for set of four)

Various "Novelty" mats £5.00 inc

We can repair/upgrade your machine(s) and monitors at competitive prices please ask

All Acorn's including BBCs & PCs

StrongARM Special Offer

£249.00 inc VAT

(with any Hard Drive / Memory purchase)

Casio Digital Cameras

	Ex VAT	Inc VAT
QV10a (PC Software)	£299	£351.33
QV10a (Acorn SW)	£310	£364.25
QV100 (Acorn SW)	£440	£517.00
Qv10a/Qv100 s/w kit	£96	£112.80

3 yr Warranty on ALL Acorn MEMORY *why Pay More??*

ACORN MEMORY

		Ex. VAT	Inc. VAT
4-8 MB Up. (A310,440,3000*)	⇓	£129	£151.58
4-8 MB Up. (A5000*)	⇓	£135	£156.62
*rework for A3000/5000/25mhz		£25	£29.38
A3010 1-2 MB Upgrade	⇓	£32	£37.60
A3010 2-4 MB Upgrade	⇓	£54	£63.45
A3010 1-4 MB Upgrade	⇓	£60	£70.50
A3020/4000 2-4 MB Upgrade	⇓	£50	£58.75
A5000 2-4 MB Upgrade	⇓	£60	£70.50
A3000 1-2 MB Non-Upgrade	⇓	£20	£23.50
A3000 2-4 upgrade (exchange)	⇓	£55	£64.63
A3000 1-4 MB Upgrade	⇓	£60	£70.50
A3000 Serial Port Upgrade		£23	£27.03
A310 4Mb Upgrade	⇓	£69	£81.07
A400/1 1Mb Upgrade per meg	⇓	£29	£34.08
Risc OS Carrier Board (A310)		£20	£23.50
MEMC 1A upg (short supply)		£45	£52.88
NEW A540 4Mb		£99	£116.33

RISC PC MEMORY

please ring for latest prices (best in the Acorn World)

Also FOR A7000	Ex. VAT	Inc. VAT
4Mb SIMM	£12.50	£14.69
8Mb SIMM	£24.50	£28.79
16Mb SIMM	£38.00	£44.65
32Mb SIMM	**£75.00**	**£88.13**

RISCPC VRAM

1Mb VRAM	£42.00	£49.35
2Mb VRAM	**£84.00**	**£98.70**
1-2 Mb (exchange)	£75.00	£88.13

30/33 Mhz Arm 3 upgrade

with FPA socket	£128.00 inc
with FPA 10 fitted	£198.00 inc

NETWORKING

ETHERNET INTERFACES

All ethernet i/fs etc are ANT	Ex. VAT	Inc. VAT
A3000 int 10base2 or T , Access+	£89.00	£104.58
A400 / A5000 10base2 or T Acc+	£89.00	£104.58
A400 / A5000 10base2 + T Acc+	£99.00	£116.33
A3020 10base2 Access+/ext MAU	£99.00	£116.33
A3020 10baseT Access+/ext MAU	£99.00	£116.33
RiscPC/A7000 10base2 or T Acc+	£89.00	£104.58
Ant Access+ ROM upgrade	£10.00	£11.75

Cables

2M	£4	£5.29
3M	£6	£5.88
5M	£7	£8.23
10M	£11	£12.93
20M	£15	£17.63

State 10base2 or 10baseT

RiscOS 3.11 upgrades

£29.00 exc Vat
£34.08 inc Vat

Desktop FAX MODEMS

33600 Voice BABT approved	£59.57	£70
55600 x2 US Robotics	£160.85	£189
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Language fonts – that is, almost all except symbol fonts – have lots of accented characters from ASCII 192 onwards. These are normally made by combining a character and an accent from elsewhere in the font. The font file doesn't contain copies of the characters and accents, but references to them, and X-Y co-ordinates for positioning them 1/4, 1/2 and 3/4 are usually made in a similar way, and even : ; and " may be. You can even have a character which is part outline, part inclusion.

!Fontician preserves these inclusions in draw files as bits of yellow text, a full stop and either the character or its ASCII number in hex. You could move them about, edit the text or create new ones, but it would be hard to see what you were doing. *!FontEd* is much better for these purposes. Deleting them is no problem, of course, and the display does at least let you see what is there.

Incidentally, *!Fontician* also stores the name of the font, the design size and the number of characters defined, as bits of red text. Editing these works, but if you change the number of defined characters you need to move all the outlines and widths up or down by the appropriate amount. The green grid and the red characters or ASCII codes in the corners of the grid rectangles are just there to help you.

Scaffolding

Font files usually contain scaffolding information which helps to keep characters looking uniform regardless of where they happen to fall on the pixel pattern of the printer or display. It is also used to prevent horizontal or vertical strokes disappearing on low resolution devices.

Although the positions of and relationships between the scaffold lines themselves is preserved as a non-displayed object when *!Fontician* saves a draw file, it isn't possible to retain the linking of the characters' control points to the scaffolding. Thus when you convert the draw file back into a font file, you'll still find all the right scaffold lines in the same places on the same characters, but you'll have to reconnect them in *!FontEd*. Sorry about that.

If you load a font file and save it as a font file, the scaffolding will be left connected perfectly happily. As long as you don't rotate or reflect the font, the scaffolding will be adjusted correctly for any scaling. This is subject to the limit of 253 design units for the width of any scaffold.

If you process a draw file of a font with *!Embolden*, any scaffolding lines in a non-displayed object will be adjusted accordingly. *!Fontician* also has a facility for adjusting them – click on the toggle size icon on *!Fontician*'s save window, and you'll see the Widen-X and Widen-Y icons. Use positive values to make the scaffolding wider, negative values to make it narrower. Left and right scaffolds are moved appropriately too.

You may well want to import the scaffolding wholesale from one font to another. To do this, save a draw file by dragging the icon from the scaffolding side of the save window. This draw file will contain just the non-displayed object holding the scaffolding. This can then be dropped into a *!Draw* window showing a font that doesn't have scaffolding – you can remove the scaffolding with *!Fontician* first if necessary.

Skeleton lines

To prevent curved or diagonal strokes dropping out, characters in fonts may have skeleton lines along their middles. The only distinguishing feature of a skeleton line is that it is 'open', that is, its ends aren't joined up. It's advantageous if you avoid bringing the ends close together, or they are liable to become closed curves by accident. For characters like O, where you may need a complete loop of skeletons, make them overlap a little.

Usually, when a character is lightened or emboldened, these skeleton lines will want to stay where they are, rather than moving sideways. If you click on the toggle size icon on *!Embolden*'s save box, you'll find an option to Fix open paths. This is selected by default. You might occasionally want to allow them to move when emboldening – not usually when lightening – but you have to be careful with the directions of the paths.

Kerning

!Fontician preserves kerning tables, although you can't edit them in either *!Draw* or *!FontEd*. For that you need *!FontKern* from iSV or *!Kerner* from Design Concept. I find having both very useful. The former allows you to save the kerning tables as a separate little file which can be restored later, which is useful because *!FontEd* loses them; but I find *!Kerner* much better to use in other respects. Neither is terribly expensive.

Draw files produced by *!Fontician* contain the kerning tables as non-displayed objects, and *!Fontician* restores them correctly when producing font files.

!PathWays

!PathWays is a utility to do a number of things to paths in draw files. To use it, drag a draw file onto the icon, select the processing you want, and then drag the

osite racters

Clive Semmens concludes his short series

icon from the Save window wherever you want. *!PathWays* processes are alternatives; you can't do combinations of them except by using it repeatedly.

One of the major uses of *!PathWays* is to change the winding of closed curves. Even if you stick to my *outsides clockwise, holes anticlockwise* rule, occasionally you will want to reverse windings. For example you may make a lower case d by reflecting a b, perhaps with minor editing; but the winding of the d will then be opposite to that of the b. You might already have some outlines you've drawn, and no longer know which way you drew them.

It's quite interesting to have a look at Trinity or Homerton: The winding directions are every which way.

The two options in *!PathWays* for these purposes are *Show winding* and *Reverse red paths*. The first puts little arrows on all paths. Any paths you want to reverse can be coloured red using Style=>Line colour in !Draw. The standard red in the 16-colour picker must be used. *Reverse red paths* not only reverses the marked paths, but also removes the little arrows.

Paths can be more complex than a wiggly line or a closed curve, however. A path can consist of several subpaths, each of which may be open or closed. A typical character in a font may have an outer outline, several holes, detached parts and/or open skeleton lines along the middle of thin strokes. All these subpaths will form single path.

If you need to reverse some subpaths but not others you need to cut the path into its separate subpaths first, using Unlink=>moves. For our present purposes, it isn't necessary to relink them afterwards, as *!Fontician* doesn't care whether a character is all one path or not, and will link them up anyway.

Unlink=>all separates every element of a path, at all the control points. This can be very useful if you want to copy parts of several characters and then combine them to make a new character - you might use the same serif or the same curved stroke for several different characters, for example. In this case it is very helpful to relink all the elements afterwards.

When linking, you can set a *Gap close* distance. Any gaps less than this between the end of one path and the beginning of another will be closed up by moving the two ends to the half-way point. The options when linking are to link all paths in the file; link all paths within any group; or link only where gaps have been closed up, or unlinked ends were already coincident. In the first two cases, links where gaps haven't been closed up will be made with moves. Curves will be closed if the two ends of a linked series come close to each other.

Any non-path objects will be copied unaltered by *!PathWays*, except that groups may become ungrouped, and non-path objects may be put behind path objects.

Designing a font

It's very helpful to plan the stages of work on a font. I start by creating all the characters in *!Draw*, using *!PathWays* to cut up copies of characters and stitch them back together, with new bits as necessary, to make other characters. I use a fine grid during this process, with the grid displayed, and work at a large scale.

Don't forget about *!Draw*'s New view option (in Misc in the menu) - I often have two or three views of my font on screen, showing the character I'm working on and the characters I'm borrowing from. I use Shift+Adjust to zoom in on a character, and Control+R to revert to a view of the entire font to pick a different character. The best scales to use will vary with the resolution of your screen.

Don't be put off by *!Draw*'s odd habit of showing grid points slightly offset from the position actually snapped to, particularly at large magnifications, with fine grids, or at large distances from the origin.

Not until all the characters are defined do I use *!Fontician* to create a font file. Next I make all the scaffolding in *!FontEd*, then the composite characters (; " â and so on) using *!FontEd* again, and finally I make the kerning table using *!Kerner*.

You can do things in a less ordered way, going back to a draw file after you've converted to a font file, making changes, and converting back again; but you run into issues like the loss of linking to scaffolds, loss of kerning tables and so on. You can work round all these and, of course, I usually end up having to. Irritatingly, *!FontEd* randomises windings, which is tedious if you want to use *!Embolden* after a conversion to Font format and back to draw file.

One useful work-round is worth mentioning. You can keep the scaffold links when you want to edit a few characters in *!Draw*, by keeping the original font file and dragging edited characters from the new font file into the old rather than using the whole new font. The edited characters will have lost their scaffolding, but the unedited ones will have kept theirs.

I usually make the caps height of a font about 18 mm. With a Design Size of 500, this makes the caps the same height as the caps in Trinity. You could increase these in the same ratio, but you run the risk of accents going out of the top of the green ➤

Composite characters

➤ grid rectangle unless the ratio is small. Apart from the potential for confusing yourself, this doesn't actually matter, as long as the start point of each path comprising the character is within the rectangle, and so is the top left-hand corner of each composite character inclusion – not that the latter is an issue until you come to editing an existing font.

Making different weights

If you're intending to make different weights of your new font, keep the original draw file and work from that. This circumvents the problem of *!FontEd* randomising the windings.

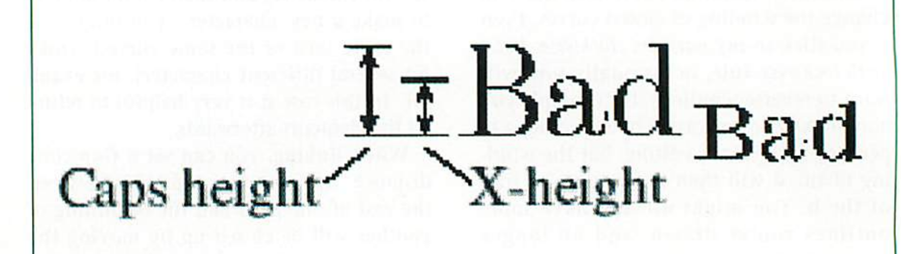
This is where the facility to borrow a set of scaffold lines wholesale from another font comes in useful, together with the facility to widen them.

You can embolden by different amounts in the X and Y directions. To do this, click on the toggle size icon on the Save as window. You can now enter a Y value different from the X one. This is particularly useful for extremely bold versions, where you will usually want to embolden vertical strokes more than horizontal ones.

!FontEd is well documented in its own Help file – in fact, some of this article may make more sense after you've read that. The only thing I would add is: Don't use a 256 colour mode, use a 16 colour mode otherwise co-ordinates are invisible.

Room for improvement

There are one or two known bugs: *!Fontician* doesn't always get bounding boxes right. This isn't too serious a failing



This is the version of Modern that I designed for The Journal of Physiology. Note how the aspect ratio of the inferior capitals is different from that of the full-size capitals, and the thin strokes are about the same thickness in both. The thick strokes are slightly thinner in the inferiors, but thicker than they would be if they'd been reduced in proportion to the reduction in size. The end result is that the weight looks about the same. I used *!Embolden* to adjust the weight, and *!Fontician* to adjust the size and aspect ratio. I used *!Fontician* three times, with different ratios, once for the capitals, again for most of the lower case letters, and lastly for the lower case *g*. Apart from the *g*, the ascenders and descenders were then shortened in *!FontEd*

as *!Draw* and *!FontEd* both fix all bounding boxes as soon as any editing is done. *!Fontician* does copy the bounding boxes correctly from a draw file when creating a Fontfile, as long as there are no composite character inclusions.

If there are composite character inclusions, you'll have to load the font into *!FontEd*, do some small edit, undo it again if appropriate, and save the font again. Don't forget that *!FontEd* will lose the kerning table if there is one, unless you save only the Outlines file, which is OK if you haven't changed any widths. Alternatively you can use iSV's *!FontKern* to preserve and reinstate the kerning table.

Composite character inclusions unfortunately appear in front of paths when fonts are converted into draw files. It is quite okay to move paths to the front when you want to edit them. They are then perfectly visible against the ochre background of inclusions.

All these utilities are written completely in BASIC. They would benefit significantly from some quite small sections being rewritten in Assembler, which I might get round to eventually. The only time you're likely to find their speed a problem is if you try to link a very large number of paths into a single path.

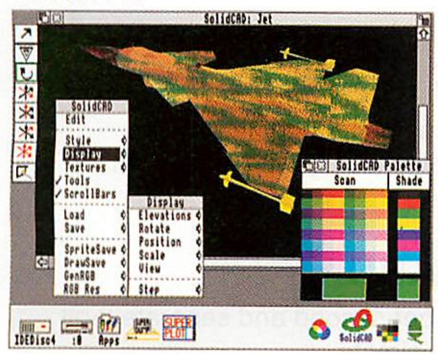
And that's about it, everything you need to know and all the software you'll need to do interesting things to your fonts. AU

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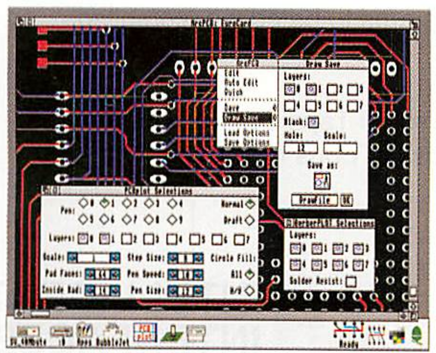
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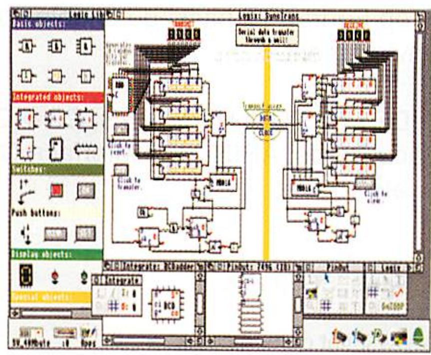
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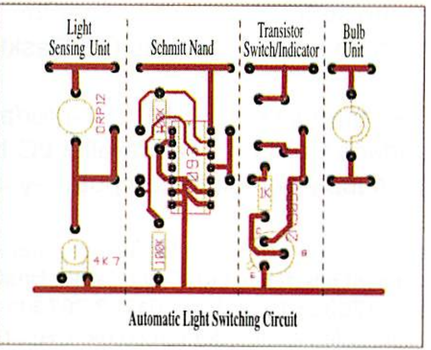
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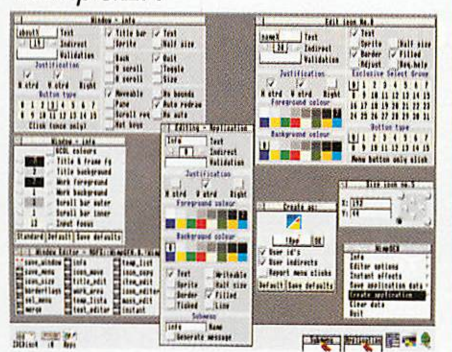
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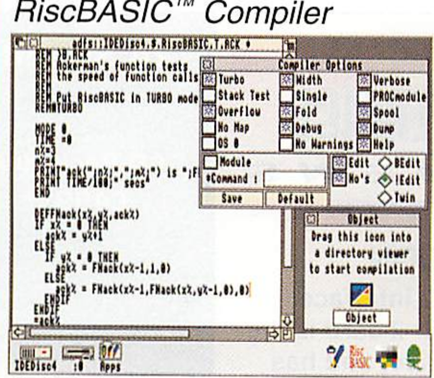
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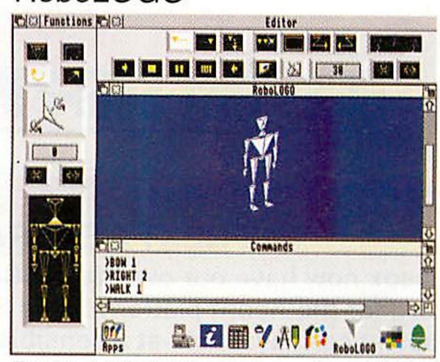
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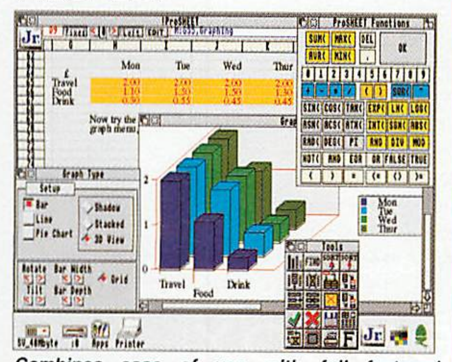
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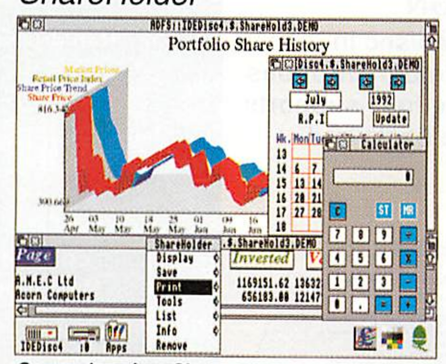
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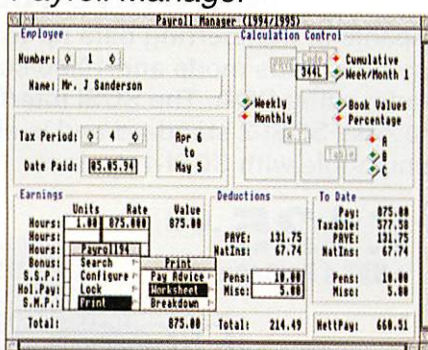
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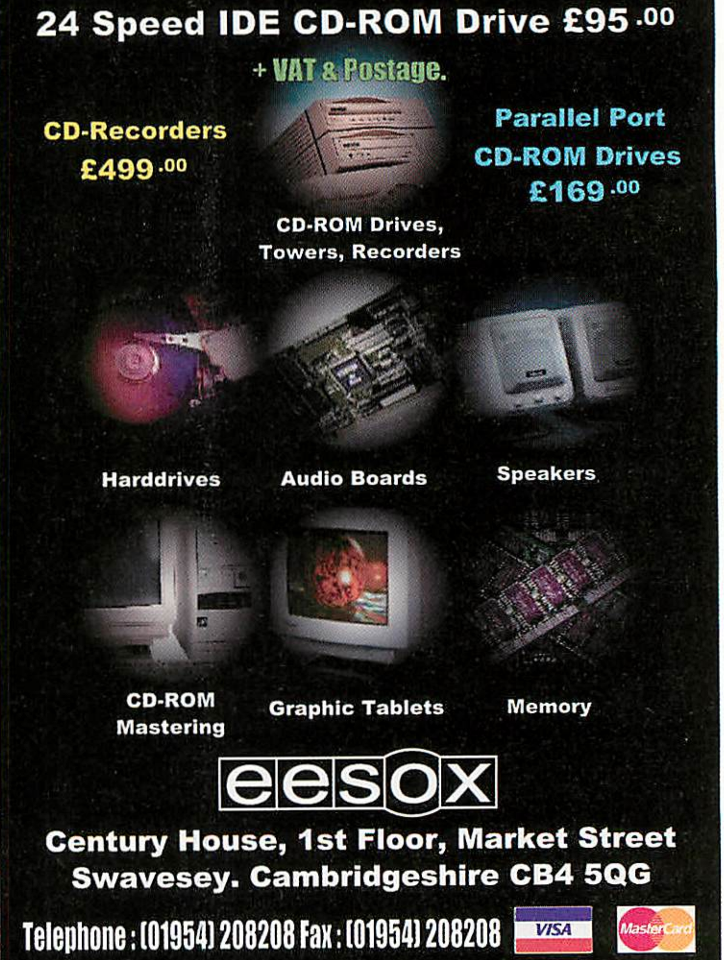
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Blowing away the cobwebs Part three

In the final article on website maintenance, **Simon Kiff** looks in more detail at the use of images

Images on web pages are either JPEG or GIF files. These are both compressed formats, so they will be much smaller than the same image stored as a Sprite, but their methods of compression are very different. GIF files compress the image and store it row by row, and can only use 256 colours, while JPEG compression is more complex, but allows many more colours to be used.

In general terms, GIFs are used to store images generated on the computer, and JPEGs are used to store 'real world' images, such as scanned photos and other pictures with lots of intricate detail. JPEG files, a format devised by the Joint Photographic Experts Group, are termed 'lossy'.

In practice this means that some exact detail is lost when a JPEG is created, the level of which can be controlled, by setting the percentage 'quality'. The reward for this, however, is the use of more colours and much smaller file sizes than could be achieved using GIF compression.

Using a quality setting between 75 per cent and 95 per cent, the JPEG version is virtually identical to the original – you would need to examine the original and the JPEG side to side to see the difference. It does mean that it is more suited to 'real world' images because you can see a more marked difference with, for example, a computer generated logo. The outline may not be as smooth as you would like, or a corner might have lost its sharpness. If you are going to use computer generated images (and most websites will) then the GIF format is more appropriate. GIFs can only use 256 colours, but (colours aside) the final GIF image is identical to the original image. GIFs can also be stored in a interlaced form. This means that instead of the image being stored line by line, it is stored as alternating lines – so the image 'builds up' as it downloads. This gives the viewer an impression of what the image will be before the whole thing has come over a modem connection.

GIF files can also be animated. The GIF file then contains a number of frames, which the browser will display after varying delay times. These are, unsurprisingly, larger than a simple GIF file would be, but used in moderation (as with most things in HTML), they can add a certain degree of polish and professionalism to a website.



The same JPEG at 10% quality (4995 bytes), 50% quality (14415 bytes), 90% quality (37468 bytes) – the original sprite was 163Kb

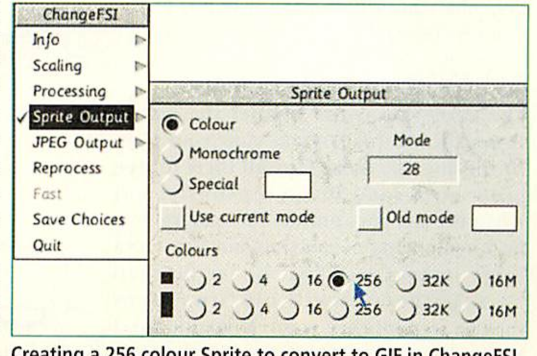
Creating GIFs and JPEGs

On the Acorn platform, there are several ways in which GIFs and JPEGs can be created. The simplest way is to start with a Sprite file that you want to convert for use in a web page. Firstly, decide whether a GIF or a JPEG would be more appropriate. The basic decision is – would it look bad if a few minor detail were lost? If the answer is yes – for example if it is a navigation bar created in *ArtWorks* – then use a GIF. Otherwise, a JPEG is better. If you are going to create a GIF file, you will need to make sure your Sprite is a 256 colour one (i.e. mode 28 on pre-Risc PC computers). If it is not, then you can use *ChangeFSI* (a much underused and underrated image conversion tool), to dither it down to 256 colours.

Simply select 'sprite output' and 256-colour square pixel. Then drop your Sprite over the icon, and see what the image looks like in 256 colours. If it is acceptable, just open the save box, and save out the new version. If it looks particularly bad (unlikely with *ChangeFSI's* impressive dithering), you may like to reconsider, and make it into a JPEG.

Once you have a 256 colour Sprite, there are a number of programs which can convert it into a GIF file. I personally recommend Peter Hartley's *InterGIF* program (freeware). This has a number of useful features, such as automatically trimming 'blank space' at the edge of Sprites to make the GIF file size as small as possible. It will also create animated GIFs if you drop in a multi-image Sprite.

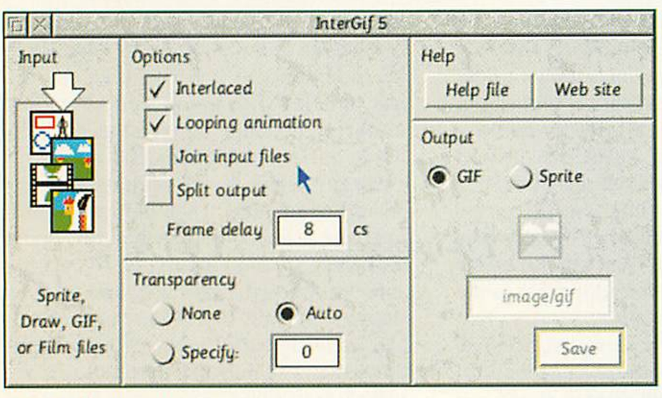
If you want part of the GIF file you are creating to be transparent, the easiest way is to just create a mask in the Sprite, and set *InterGIF*'s transparency setting to 'Automatic'. Just a word of warning about the file trimming feature. If, like me, you like to keep files as Sprites until the last minute, in case they need to be modified, then do not put any width or height attributes into the image tags. Wait until ➤



Creating a 256 colour Sprite to convert to GIF in ChangeFSI

Blowing away the cobwebs Part three

➤ you have converted the Sprite into a GIF file because all the images will lose a few rows and columns here and there leaving the height and width settings wrong – the browser will stretch the image to fit the box you have left for it. Needless to say, this looks awful. If you have chosen to cre-



InterGIF5 by Peter Hartley



The result of a GIF 'shrinking in the wash', it gets stretched back to its original size

ate a JPEG, then *ChangeFSI* is as good as any other program for creating them. Set *ChangeFSI* to 'JPEG output' and select a quality between about 75 per cent and 95 per cent. Check how good it looks, before you save out the JPEG file.

Image sizes on websites

The basic rule is the smaller the better. Remember that when you view your website offline, the images are all there for the browser to load instantaneously, but when the site goes online, the images may be downloading over a slow modem – and large images will just never be seen because the user will hit 'stop' once they've seen all they want. If you do need to put a large JPEG or large GIF online, the best way to do it is to create a small GIF thumbnail of it, and write 'click here to view the full size JPEG (68K)', or whatever, underneath. To create a small version of an image, the best way is to use *ChangeFSI*. Simply go to the scaling option and change the ratio until the image is small enough. Then convert it into a GIF file.

ChangeFSI's dithering will mean that even when very small, the image is still recognisable. Including the size of the file will let the user know what they are letting themselves in for when they click on the link.

Height and width tags

David Matthewman did mention this in his article on HTML, but I would like to reiterate the importance of including height and width tags in your HTML. For slow modem users these are essential because they mean that the browser can render the page before any images have downloaded, so that the page is of some use. The images then build up while the user is reading any textual information you have provided.

Also very useful is the alternative text tag. Many people still use text only browser, and [Link] is not very useful on its own. Slow modem users may also turn off images, and if there is no alternative text, and your site uses a lot of images, the site may appear completely *blank*.

Vector graphics

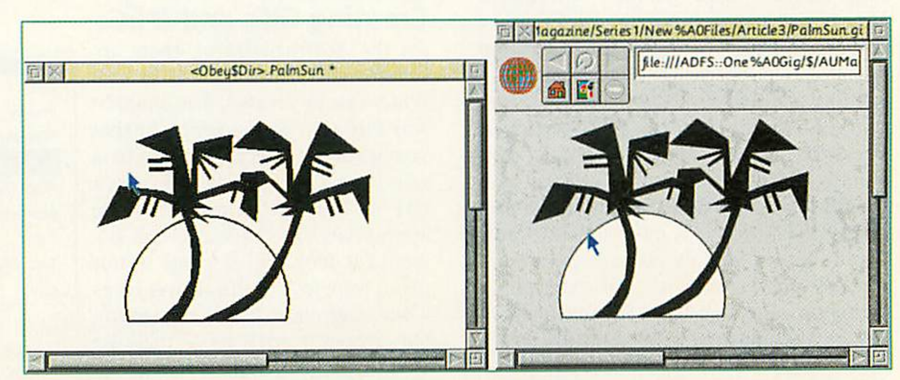
In general, vector graphics are quite desirable on RISC OS computers because of the superb anti-aliasing features of the operating system. However, they are not supported directly on the Web. The best way to make use of them is to design your logo/diagram/button using a program such as Computer Concepts' *ArtWorks*, with anti-aliasing enabled, and then take a snapshot of the file using *!Paint*. This can then be converted to the correct number of colours using *ChangeFSI* and converted into a GIF. This way the anti-aliasing is retained, and you can have the smoothest curves on the Web.

InterGIF now accepts the input of *Draw* files directly. It will anti-alias them, and save out a GIF file. This makes the process very quick, and gives RISC OS users a facility a cut above that available for free on the PC.

Creating graphics

I have already outlined the methods of making images for use on the Internet with RISC OS. I personally prefer to use a mixture of *ArtWorks*, *Draw*, *Paint*, *InterGIF* and *ChangeFSI*. The commercial photo-retouching and 24-bit artwork packages also produce very pleasing results. It is the ease with which files can be dropped backwards and forwards from program to program that makes RISC OS actually quite good at creating Web graphics. You have complete control over what you are doing and know what the final product will look like.

The programs you use are down to personal preference, but very good results can be obtained using freeware programs alone. PD/Freeware software is often adequate for most peoples use – this appears to be a common feature throughout different areas of RISC OS – where the PD/Freeware sometimes even outperforms the commercial offerings. AU



The original drawfile (left), and the GIF file created from it by InterGIF in a browser



WebSpider

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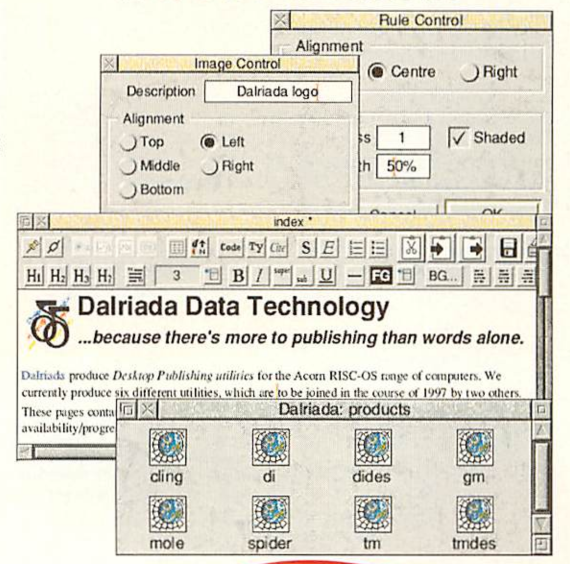
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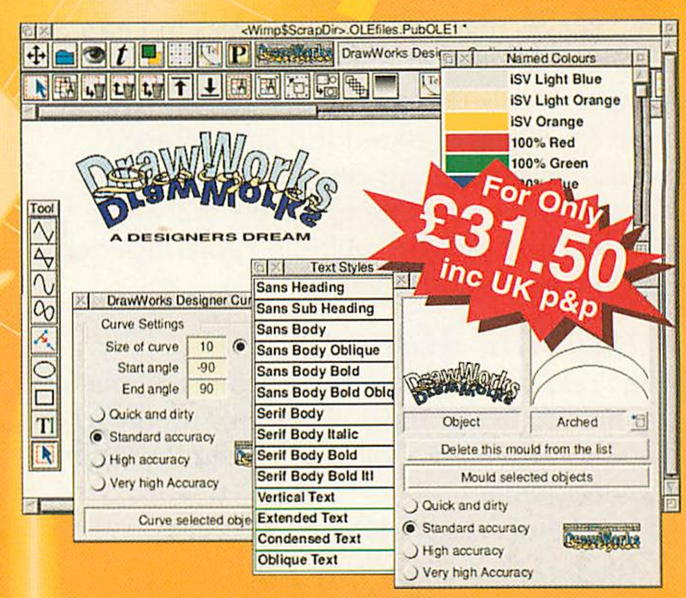
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A DESIGNERS DREAM

DrawWorks Designer



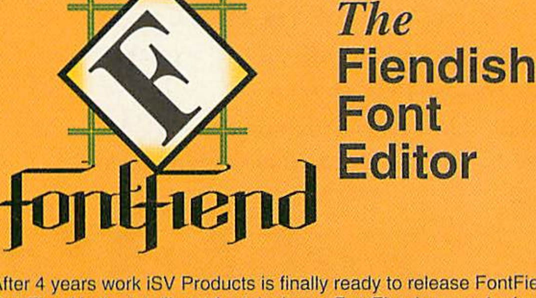
The latest version in the best selling DrawWorks series. Includes a completely redesigned user interface with on-line help. Buttons are now split into separate toolbars grouped by function.

New features include fitting objects to moulds, named colours, wrapping text or objects around a curve, user definable named text styles, full time on-line help. DrawWorks Designer also has three users levels, from Student up to Designer. Objects can be exported as anti-aliased sprites and as JPEG and GIFF files. DrawWorks designer comes with a 60+ page fully illustrated on-line manual.

DrawWorks Designer requires Risc OS 3.1 or later, 2Mb of RAM and a hard disk. Upgrades from DrawWorks 2 cost £16.50 (inc UK p&p). If upgrading please return your DrawWorks 2 master disk.



FontFiend
£151.50
inc UK p&p

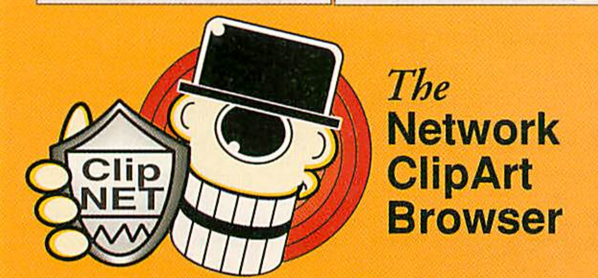


The Fiendish Font Editor

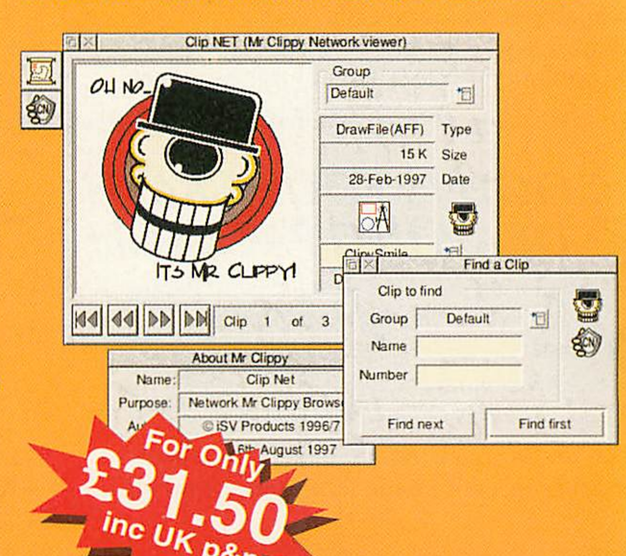
After 4 years work iSV Products is finally ready to release FontFiend. FontFiend is the intelligent font designer. FontFiend can make fonts with Latin 1,2,3 or 4 character sets. Automatically make accented letters and symbols in your font. Worried about the "black arts" of hinting a font. FontFiend can do this for you automatically.

FontFiend can also repair damaged fonts that won't load into FontED as well as loading many fonts that FontED cannot cope with. Supplied with a comprehensive printed manual and full on-line help FontFiend is the professional font designer. To quote one of iSV Products beta testers "...it's EXCELLENT!"

Requires RiscPC with 8Mb of RAM. StrongArm recommended.



The Network ClipArt Browser



ClipNET is the all purpose network clip art browser. ClipNET works in conjunction with Mr Clippy to deliver compressed clips over your network quickly and simply.

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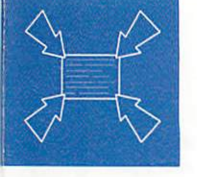
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• Donated/inexpensive purchase Acorn computer/monitor needed for 1036 (Bury) Squadron ATC in PC-brainwashed environment. Please contact David Foss, e-mail: foss.family@argonet.co.uk

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• RiscPC for sale: 200Mhz StrongARM, 17in Acorn monitor, 2.5Gb IDE Hard disc 10x IDE CD-ROM, 40Mb RAM, 1Mb VRAM, 468 PC Card with the following software: ArtWorks, Impression Publisher, ANT Internet Suite, Studio24 Pro, Windows 95, Microsoft Office 95. Available with 28.8k modem and Canon BJC600 printer if required. E-mail: andy@shorten.demon.co.uk or tel: 01323 763984 your best offer for the above system.

• Floppy discs for sale: DD & HD. From 10p each. Blank or with P.D. SAE for further details: D.Mills, 19 The Bower, Jarrow, Tyne and Wear, NE32 4RT; or e-mail dmills@vishay.demon.co.uk

• Wanted for BBC Master: manual, dual 3.5/5.25 or 3.5in FDD ROM-holder, cartridges, inkjet printer. Tel: 01597 810929.

• Pandora's Box, Chopper Force, Virtual Golf, Birds of War, Sensible Soccer, £10 each. Antigrav 2 and six discs of PD games, £5. Contact Sam 01666 577691.

• A540, 8Mb RAM, AKF52 monitor, masses of software including Impression Publisher and loads of clipart, JX100 colour scanner, 2nd SCSI disc; £300 ono. Tel: 0181 532 2754.

• A3020 updated with 20 megs of internal hard drive and with 30 games only for £150 also includes 3 software packages. Tel: 0171 328 9296.

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• Wanted BBC/Archimedes contacts. Also 8-bit hardware/software for sale. Write to: Martin, 32 Grass Royal, Yeovil, Somerset, BA21 4JW. Tel: 01935 425974 (100% reply).

• Risc PC 600, 9/210, AKF60 Multisync (14in) £575 or take 17in multisync or StrongARM upgrade in p/x (or both as 80% swap). Tel: 01935 425974.

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• Games for sale: Bughunter, XFire, Chopper Force, Pacmania, Drop Ship, WIMP game, Virtual Golf, Saloon Cars £5 each. Birds of War £10. Phone: 01282 773595.

• Loads of cheap Acorn 8-bit hardware, software, add-ons, magazines, manuals, etc. SSAE for list: Mr West, 7/24 Mill Green Road, Mitcham, Surrey, CR4 4HY.

• Panasonic KXP-1081 printer, tractor feed only £20. Selection of BBC software including Elite, View, etc, some boxed — £10. Tel: Peter, 01753 554570 after 7:00pm.

• Archimedes A420 with 7 manuals and also books. Any reasonable offer accepted. Tel: 01274 542098.

To use the Acorn User Free Ads service just complete the coupon on page 86. Free Ads can also be found on this month's Cover Disc.

WE'RE on the December issue, and following closely behind turkeys and trees comes New Year and the promise of new resolutions. Diaries are as much a feature of both events as over-eating but the art of diary writing has been lost. Wasn't it Mae West who once said something about keeping a diary and one day it'll keep you?

Anyway for children diary writing is a valuable assignment and an activity which is still used in primary schools to build writing, composition, memory and planning skills. Apart from practising writing and note taking skills, the final diary could be a long lasting record of 1998 and would make it easier — if kept on a computer — to write a Christmas letter next year to relatives all over the world giving details on what has happened over the last 12 months. Or how about adding it to your Web site?

This need not be an arduous task — just a few lines at the end of each day outlining what they did and where they went during the day. Don't get bogged down with the times of each event or the distance of every journey: that isn't really important. The age of the child(ren) involved will clearly determine how much help you could give them.

Younger children with no keyboard skills can find writing on a computer excruciatingly slow, so you might like to provide them with a small notepad with the day and date written at the top of each page. All they need at this stage are cues to jog their memory so once a week they can write up everything. This system is easily portable for holidays and school trips. For these it might also be useful to record the numbers of any photographs taken during the day and list any souvenirs they acquire.

THE DAY WE WENT TO BANGOR

with
Mum & Dad

by
S, S & S PRESTON

Adding the computer

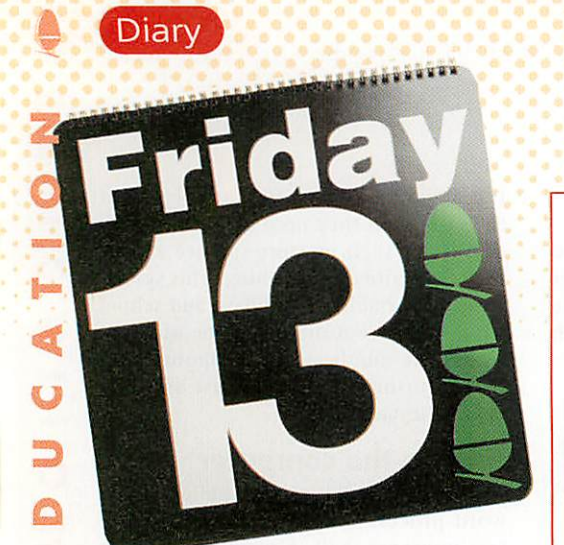
Almost all computers are supplied with a word processor and all have the basic text processor *!Edit*. A word processor or simple DTP package such as *!TextEase* (SoftEase) is ideal. Should your kids baulk at typing up their notes, remind them that they can make numerous copies and that corrections and even major alterations (like changing the layout of the page) are possible before finally printing onto paper — and they won't have to write it up ever again, as long as they remember to save.

Once the word processor is loaded, create a new page (which will probably be A4 portrait — 297mm x 210mm with the long side vertical) and enter the title, date, name and any other information ➤



Diary makers

Geoff Preston takes a built-in text processor and goes educational for those new to computers



for the front cover. Don't worry about the layout at this stage.

When you've entered the information for the cover, create a new page and head it with the day and date of the first day of the diary. Notes can then be typed in and expanded upon as you go. This is the great strength of word-processing: you can compose your work as you type it. If you miss out a piece, you can move back and insert text without having to delete anything. This method of using a word processor should be encouraged. Definitely do not copy up notes by hand and then copy-type them into the word processor as it's a waste of time.

Adding pictures

The rulers that appear alongside most word processors are quite accurate — although paper stretching can occur during the printout stage. Measure any photographs or postcards you may have and create spaces on the document pages so that the pictures may be glued in once the document has been printed. Alternatively you may have some suitable drawings from clip-art discs which you may wish to include. For those with scanners and PhotoCDs you can drag your sprite or JPEG files into place on the actual page — much better if you want to print more than one copy.

Once all of the text has been entered, go back to the beginning and start formatting. Increase the size of the text for the titles and put them into the centre of the page.

This will normally involve marking the text (clicking and holding the left button while the mouse is moved over the text to highlight it) and selecting the centre text option which will either be on the button bar at the top of the screen or in a menu.

Use a variety of fonts, but try to encourage children to develop a consistent style. If you decide to italicise place names, italicise all place names. Other alternatives including emboldening which could be used, for example, with dates. Change the sizes of the text in the sub-headings but don't alter the size of a single word mid-line as this can have strange effects.

Use one font style for the titles and another for body text. In most cases, fonts can be changed by marking the piece of text you wish to alter and choosing the font name, font size and highlight. If you have a colour printer you could change the colour of a few words as an alternative to italics or emboldened text.

You could print the cover on slightly thicker card if your printer will take it. Once printed, glue in the photos and pictures and staple together to form a long-lasting document. And with this success under your belt how about a school or class newspaper as your next project? AU

Tuesday 4th

After our breakfast of toast and marmalade, we went to the beech. Simon built a really large sand castle with a big flag on top.



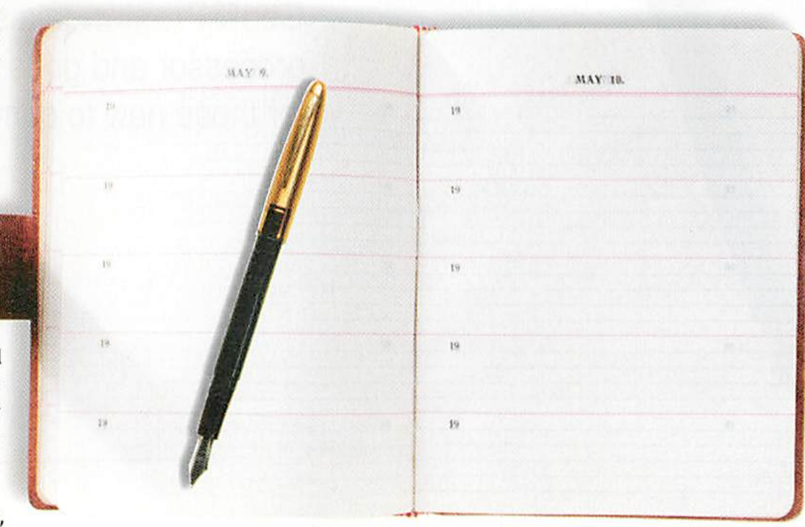
Steven and Dad went swimming while Mum and I played with the beech ball.

We soon got hungry so Dad took us all to a little restaurant near the seafront. The waiter was funny he talked like Manuel in Fawlty Towers.

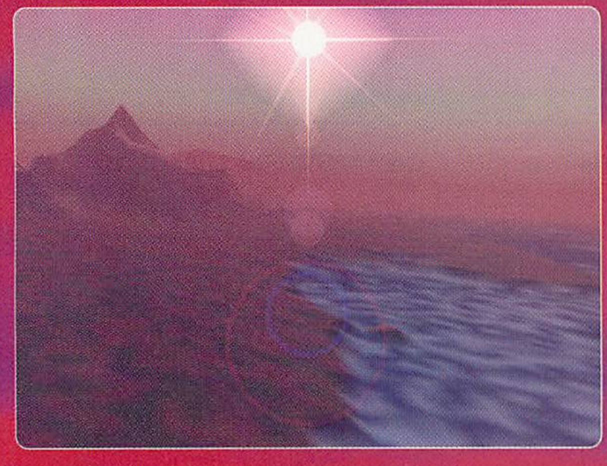
In the afternoon we went for a long walk. We went up a really steep hill and saw a lovely view over the bay.

We went back to the hotel and after tea we all went to sleep on the bed.

I wonder what we're going to do tomorrow.



GAME



Steve Mumford interviews Frank Föhl, the creator of *Iron Dignity*

If all goes according to plan, you should find a rolling demonstration of Frank Föhl's forthcoming masterpiece, *Iron Dignity*, gracing the CD-ROM on the cover of this issue. Take a good look at it if you can; I'm afraid it's Risc PC only, and a StrongARM is recommended if you want to run the demo in a high resolution screen mode, but a glance at the screenshots we've included here should give you an indication of the direction things are moving in at the moment.

Frank's been kind enough to talk to me about his project – more information can be found in a help file within the application. Sit back and read on, and if you like what you see, drop Frank a line by e-mail at foehl@rus.uni-stuttgart.de – he wants to hear from you.

AU: *When did you start writing Iron Dignity, and what made you do it?*

FF: I began coding in October 1996, but the polygon library has evolved over several years. I first wanted to start a project of this complexity about 10 years ago, when I played *Cholo* on a C128 – a great three-dimensional adventure that really fascinated me. In the end, I had to wait a little to gain the experience, as well as hardware more suited to the task. In a way, writing *Iron Dignity* is the fulfilment of an old wish.

AU: *How would you describe Iron Dignity?*

FF: It's designed to be a cross between a 3D action game, such as *StarFighter 3000*, and a real-time strategy game like *Command & Conquer*. There might also be flight simulator or adventure elements thrown in. Two modes of play will be possible: The first will be strategy-based in which you control all of your units at the same time, using a map and cameras to provide a 3D overview. The second mode of play presents the world to the player in first-person perspective.

AU: *What do you think makes it special or unique?*

FF: Firstly, the idea of trying to create a real-time strategy game in 3D is rather exceptional – most of these games on the PC are played on a 2D scrollable map. The renderer has several special aspects; it runs primarily in 24-bit colour using a proper RGB lighting model, allowing objects to be lit by several coloured light sources. The transparency effects and the animation techniques have been created especially for this game and have not been seen before.

AU: *What gave you the idea for the spectacular explosions that can be seen in the demo?*

FF: The idea came to me while I was watching a Star Wars movie – they used lots of flare effects to simulate blinding lights, such as the explosions in space, engine exhausts or light sabres. I thought I could replicate this by using transparent gouraud shading. Additional effects are planned, such as glowing debris and transparent filtered texture animation, similar to those used in some N64 games.

AU: *Are you planning to convert Iron Dignity to other platforms once work has finished on the Acorn version?*

FF: Yes – a PC conversion is planned, and an early version of the game engine already runs on that machine. However, an Acorn release will definitely come first. I'm glad to say that even on fast 200MHz Pentium processors it runs noticeably slower than on our StrongARM Risc PCs, when a software implementation of the OpenGL standard is used for the low-level rendering. Even with a suitable graphics card, it's not necessarily much quicker – although with an expensive high-end graphics card we were able to make it run quite a lot faster.

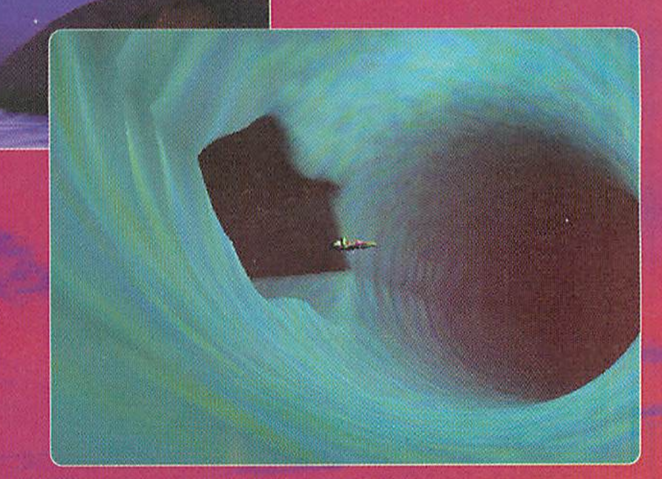
AU: *Do you think Acorn could do anything to help the games market?*

FF: To make the platform attractive to 3D programmers who don't like coding on PCs, I think there should be a second-generation Risc PC with the opportunity of hardware 3D acceleration, using the OpenGL API – as well as an ARM-optimised software implementation of OpenGL. It might be a good idea to offer cross-platform support between the Risc PC and the Sony PlayStation via the Yaroze development kit.

I'm not really keen on seeing Risc PC conversions of games from other platforms. Instead, I'd like to see some more examples of 'alternative' games programming – more extraordinary games in the *Elite* or *Zarch* traditions, such as the ongoing *Karma* project, in contrast to the current PC trend of producing great-looking games that are either unplayable or boring.

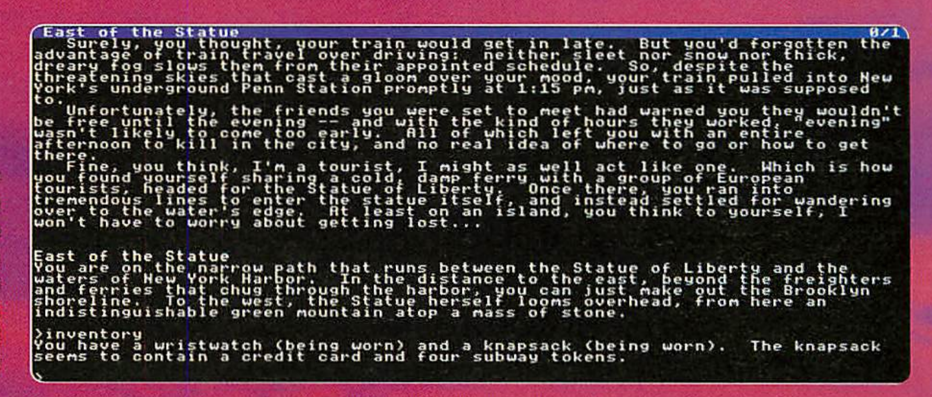
AU: *Thank you.*





SHOW

Graham Nelson reveals his corner of the cover CD



It must be 15 years since I saw one of the very first compact discs being dipped into a tub of honey on *Tomorrow's World* to prove its miraculous tenacity with data. The one on this month's cover, assuming it survived the more workaday ordeal of the newsagent's shop, is the first I've helped write, and should contain a generous slice of IF – a slice, rather than a skip-load, as I've tried to be selective.

All in all, there are 48 interactive fictions (adventure games, if you prefer) on the disc – if I'd actually counted them at the time I was putting the collection together, I'd have thrown in two more to make up the half-century, but 48 it is. The earliest was written around 1973 and the latest only this April.

In pride of place are the three winners of last year's Acorn User competition. The first place winner was Chris Smith's *BSE*, a marvellous satire on our ongoing agricultural crisis; hot on its heels was Neil James Brown's *The Wedding*, a social comedy of impediments. In their acknowledgements, Mr Smith and Mr Brown each claim that the other's game is better: There was nothing in it when the competition was judged, and there's nothing in it now. In third place was Jamie Murphy's *Leopold the Minstrel*, a medieval drama almost uniquely told in the third person and the past tense.

The three commended runners-up are also here: *Wearing the Claw*, by Paul O'Brian, concerning a curse which is gradually transforming people into animals; *Transporter*, by Andrew Laker, my favourite of the magical quest games entered; and the off-beat one-room puzzle game, *Black 'n' White Rag*, by Jonathan Nowell.

One archive, four systems

The disc contains interpreter programs for playing four different formats of game under RISC OS: The Infocom format, which is shared by the Inform compiler, the TADS (Text Adventure Design System) format, the Scott Adams Adventure International format and the Level 9 format, sometimes called A-code, which is still only partially deciphered.

For copyright reasons it isn't possible to distribute most of the great commercial games of the past, so Scott Adams, Infocom and Level 9 are under-represented here – still, Infocom's sampler games, freebies rather like film trailers, give at least a taste of what the old firm was about. Armed with the *Zip2000* interpreter, you should be able to play the back catalogue from Activision's bargain CD *Masterpieces of Infocom*: The manuals there are all in Adobe Acrobat ('PDF') format, but a RISC OS reader for Acrobat by Derek Noonburg and Leo Smiers has recently been made available at the Hensa software archive.

The largest single set of games here derive from Inform, partly because many have been written, partly because they tend to be physically smaller files than their TADS counterparts. The winners of the First and Second rec.arts.int-fiction competitions, *A Change in the Weather* by Andrew Plotkin and *Sherbet* by Angela M. Horns, are among the established '90s games on offer: *Curses, Christminster, Jigsaw, The Horror of Rylvania, The Legend Lives, Uncle Zebulon's Will*. I've tried to include some rarities and oddities, too: the avant-garde *The Space Under The Window*, written for a virtual art exhibition, and the quite mad *Lists and Lists*, which attempts to teach LISP to the player, are also here, and so is *I-0*, a recent work which experiments with a very widely branching storyline.

Answers and utilities

Making its third *Acorn User* appearance in three years is the design system Inform, which as usual has moved on: The current version is 6.14. What's most new here is the HTML-format manual, which will hopefully be much easier to browse and refer to than the old plain text or TeX versions.

There wasn't disc space for two more design systems, Hugo and TADS, but both are now available under RISC OS from Internet sources, so Inform isn't the only game in town. I'm hardly the person to provide objective advice on which to choose, but Julian Arnold and Stephen van Egmond are: they wrote the Frequently Asked Questions files for the two IF-related Internet newsgroups, which are included on the disc.

Finally, there are a handful of command-line utility programs for disassembling or otherwise decoding games in the Scott Adams and Infocom/Inform formats. And now there is no room left except to say: Enjoy, and if you're wondering where to begin, might I recommend Gareth Rees's game, *Christminster*?

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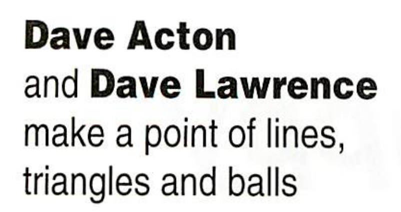
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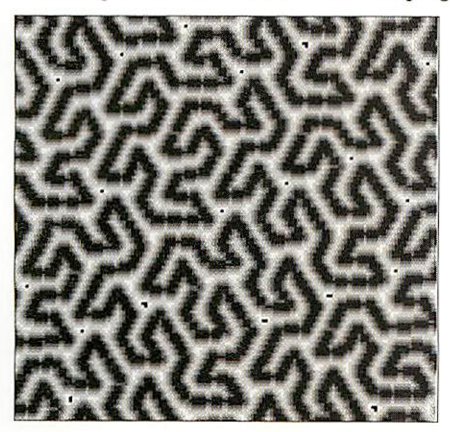


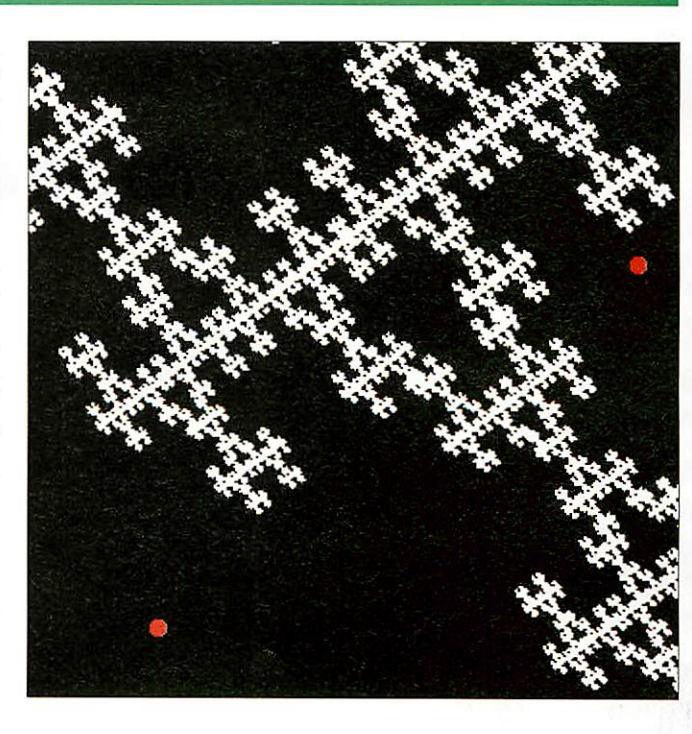
Triangle man meets person man

Author: Jean van Mourik

Jean van Mourik is a regular contributor to our pages, this month he has supplied a couple of *info 'classics'. At first, *SierTrian* seems to be just another bite at the Sierpinski gasket – that triangular fractal we all know so well. What is different is you can drag the corners of the gasket around the screen with the middle mouse button and also alter the value of 'C' – part of the equation by holding down the right mouse button. This allows you to mutate the familiar triangle into a familiar snowflake.

Talking of snowflakes, Jean's second program, *Pattern7*, plots a Koch snowflake-esque line fractal. Starting in the bottom left hand corner, there is only a single path to the right-most point. Jean apologises for the coding technique in this program and, having had a quick count up of the number of GOTOs and even GOSUBs, we can see why.





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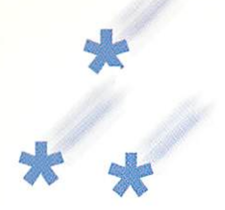
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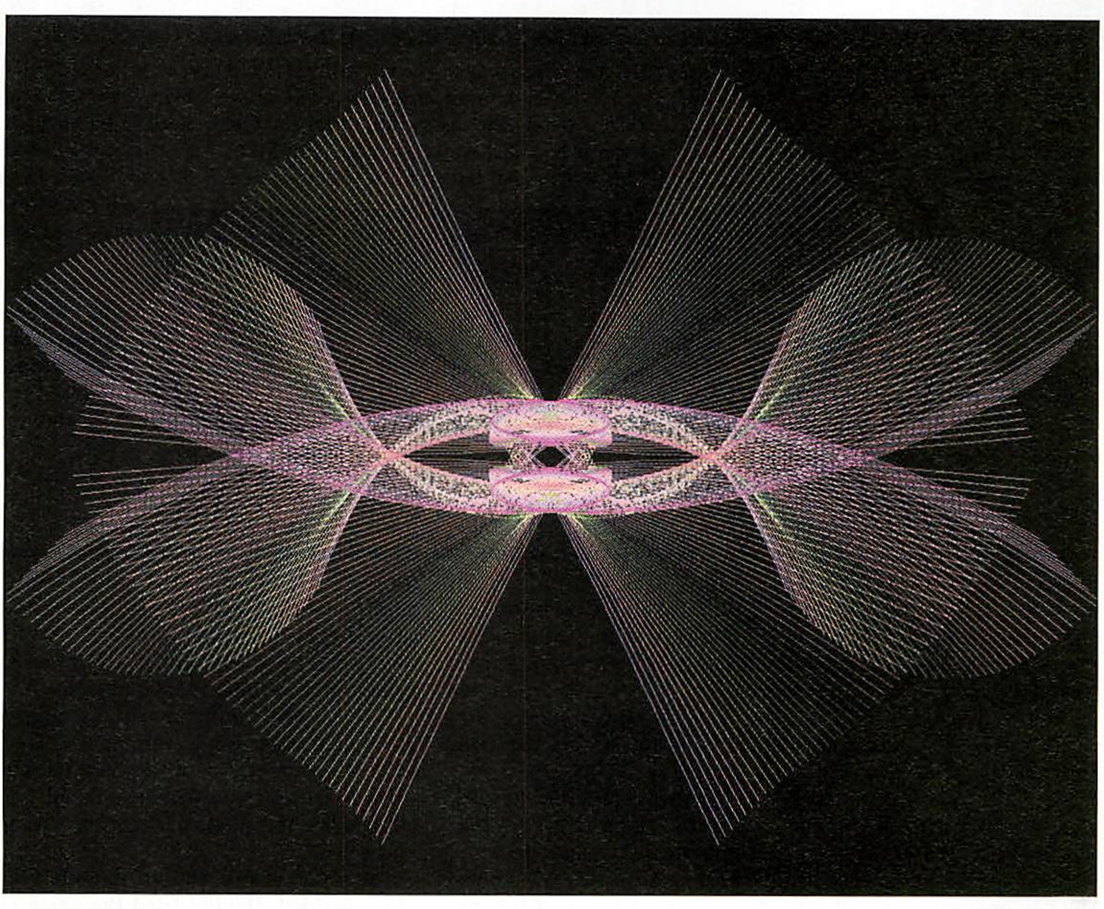


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Wind Screen Wiper

Author: Richard Spencer



Richard Spencer has written a desktop front-ended screensaver which bounces lines around the screen, fading from one colour to another. The lines can either be straight or curved (bezier), and for speed the screensaver code itself is written in ARM assembler. This program requires 32k to execute.

This screensaver does not, however, work with the RISC OS screenblanker utility, so this should be turned off. Also, in multitasking mode, naughty programs that use direct screen access without checking for screen output disabling, like Zap`s flashing cursor or an active task window, can cause weird little bits to appear on the screen in odd places.

Click Select on the application on the iconbar icon opens the configuration window (which should be self-explanatory) and Adjust starts the sceensaver (which usually has a delay time of 30 seconds). By default the screensaver runs in the current desktop mode. Move the mouse or press Shift to return to the desktop.

Things can get really fun when you have, say, five copies of the screensaver multitasking together they will all start at the same time! For best results don`t use reflection when using multiple copies.

In the configuration window there are a number of editable fields. *Time Delay* sets how long a period of desktop inactivity is required to trigger the screensaver. There is the option to set whether or not the screensaver multitasks between drawing each line. Note that multitasking can slow it down a lot especially if file operations are going on while it's trying to draw lines all over the screen. If multiple copies are loaded then only ones with the multitasking option set will start up.

Screen mode allows you to specify the resolution/colour depth the screensaver operates in. Enter a mode number or a Risc PC style mode string. The visible advantage of 32k colours over 256 is small and of 16M over 32k even less!

It is possible to set whether straight or bezier lines are used, and the quality of the bezier lines. The number 2 raised to the power quality is how many straight lines make up the bezier curve – with quality 5 there are 32 for example. The delay between lines is measured in centiseconds.

The points for one line only are calculated but these can be reflected to produce interesting effects. Best results are reflecting in the line y=-x or all three. Maximum velocity is measured in OS units per second and maximum acceleration in 1/16ths of an OS unit per second squared.

Colour fading is based on an RGB colour cube: Intensities 64-255 are used for the red, green and blue components. *Acc change every* and *Fade change every* is the average number of lines between a change in the acceleration or fading rate.

The Demo button allows you to view the effects of any changes without storing them and Cancel will reset any values you have not OK`d. OK and Save both store the changes, but as you might expect Save creates a file called *Config* inside the application ready for when you reload.

Thanks for the memory

Author: Ben Spencer

It is quite possible that the days of 1Mb machines are nearly over, but until they disappear, people will continue to use them and continue to curse when they run out of memory. To help such folk, here is a bijou module entitle *Freedom* from **Ben Spencer**. It provides a single star-command: **FreeMe*, this attempts to free as much memory as possible from the OS's dynamic areas.

There is already an OS command: *ChangeDynamicArea* that does some of this, but it only addresses the Font cache, the system sprites and the Ram disc. Ben's module also shrinks the system heap, the RMA and the screen memory.

The module works by calling the OS SWI call **XOS_ChangeDynamicArea.**

This is called with an area number in R0 and the amount to change the area by in R1. This can be negative to shrink the area. As specified in the PRM, a value of 16000000 should be used to minimise the area.

Vibey's magic spark

Author: Jan Vibe



Our good friend Jan has been busy with the InterGif program from the cover disc a few month's back and has been using it extensively to generate some fun animated GIFs. Two examples of his work are *SparkLine* and *FlameLet*. The first generates a sparkly line. It first plots all the frames and saves a sprite file called *LINE*, this can be given to InterGif. It then continues plotting the same sequence of sparklies to demonstrate the effect.

FlameLet generates a character set made up from flaming letters. First a letter is selected from the Q$ string. Then it generates a flaming area, using the algorithm from Jan's program *Inferno*. The letter is now displayed, using the font SWI's This letter is cut out from the flaming area. The letter is now grabbed as a sprite, and being used as a template in creating a sprite with 15 pictures of the flaming letter.



This sprite is saved under the name of the selected letter. The program continues until all letters in the Q$ string have been rendered as flaming letters in sprite format.

The resulting spritefiles are quite large (80K each), so be sure that there is disc space enough for them. To make the letters into animated gifs, just pull the sprite files to the Intergif program.

Line dancing

Author: David Pratt

It's still amazing that despite Mr. Gouraud and Mr. Phong, Mr. MIP mapping and Mr. Polygon, desktop patience and puzzle games are perpetually popular. This little patience game from **David Pratt** is a neat implementation of a card game we haven't seen before. David says that he wrote this computer version as he got incredibly bored shuffling and dealing the cards out!

'The basic idea is to get all the cards in rows, in order in suits. The game takes two parts. The first part is to move all the four aces to the left hand space. The second part is the more lengthy, which is to put the cards in order. There is only one rule to obey: You can only move a card into the space next to one if it is the next one in sequence and the same suit. This means that is if there is a blank space next to a king, that space is out of play.

'There are four buttons as the bottom of the window. *Restart* reshuffles the cards, *Do Aces* will move the four Aces into the empty places at the left of the screen, *Try* will unintelligently play the game until it finishes or cannot make any further moves and *Undo* will undo the last moves back to the start of the game – up to a limit of 1000 moves!

You can save your game at any point by right-clicking on the Patience iconbar icon, entering a name and saving in the usual RISC OS manner. These files can be later reloaded by dragging them into the game window. David hopes to add a high score table and a hint mode in the future, we'll bring you an update as and when.

The program uses the PD module WimpExt which David has also provided. Having tried the game on various machines we suspect that this version might possibly not be StrongARM compatible. Can anyone confirm this? Apologies if this is not the case, but if your machine seems to be prone to crashing after Patience-ing, this is probably why!

Chute down in flames

Author: Edward Smale

Edward Smale is also jumping on the late-competition-entry wagon with another exhibit for the tunnel gallery. *!Tunnl* takes a sprite, texture maps it onto the inside of a tube and then flies down it. A number of predefined effects are available: Granite, Kaleidoscope and Plasma, these all render the texture first. Granite and Plasma can be drawn in a variety of colours.



If you are feeling artistic, it is possible to load a Mode 13 sprite and have the program splatter it down the tunnel. A dozen or so sample tiles have been provided to demonstrate the sort of effects that can be achieved.

The Granite texturing is particularly effectively and almost lives up to the great Dr. Who Time Tunnel, especially if you hide behind the sofa with a cushion on your head.

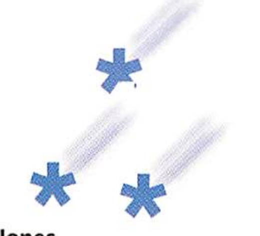
Do us a quaver

Author: Mr. Adamson

A bit of a scoop next – the first airing of an original waltz by none other than Old Crotchet Face himself, **Mr. Adamson**, the head of music at Hollingworth High school. Lovingly titled *WaltzNo.1*, it is fully resplendent in all things waltzy and lasts for over a whole British minute. Both Rhapsody and MIDI format versions are supplied on the disc. More from Crotchetty in the coming months.


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Gary Mabbutt kicks off a packed issue with a footballer's eye-view of today's technology. The Spurs captain and England international and his wife, Kathy, also look at the latest software.
PLUS
Play it safe
We look at the health and safety aspects of using computers
Words, words, words
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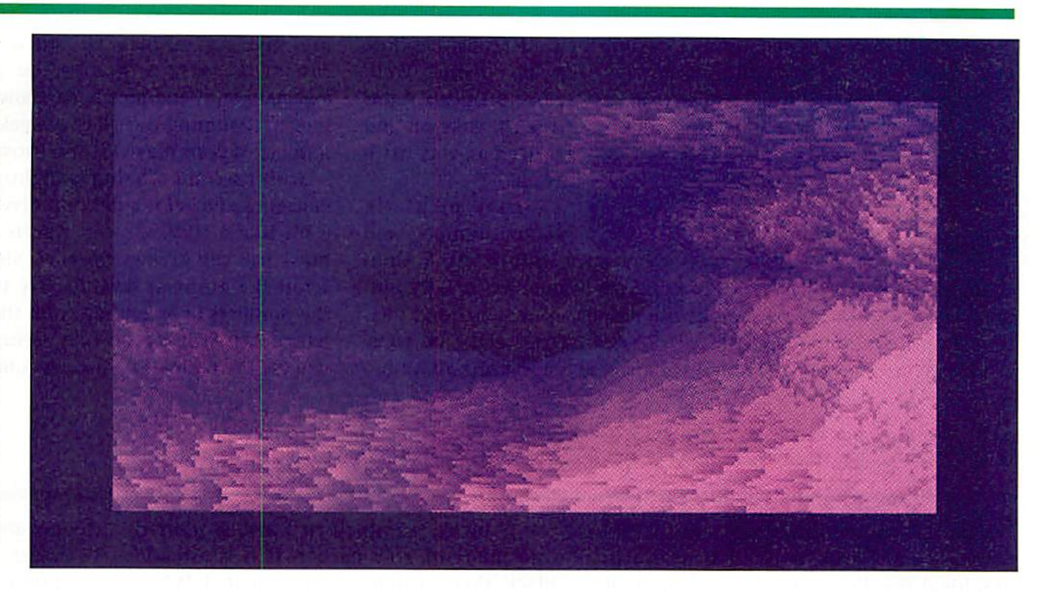


Deep Throat

Author: David Llewellyn-Jones

Oesophagus is another late entry from **David Llewellyn-Jones** to our popular tunnel competition, although you might well be forgiven for thinking it was also an entry into our perennial out-gross-Mr.Vibe-contest! A set of sprites is generated, each consisting of a number of concentric rings of shaded balls.

These are then cunningly scaled and shaded to give the impression of, well, hurtling down someone's oesophagus. By waggling the mouse about you can even simulate the same effect in reverse. Hmmm, chewy... I wonder how long before this becomes a ride at Disneyland?



Hypertexport

Author: Philip Mellor

This application by **Philip Mellor** converts HTML files into Impression format, retaining the formatting and appearance of the document which doesn't occur when saving a textfile from a web browser. It also attempts to format the text to look (and print) better than it appears in many browsers.

Simply drag an HTML file to the iconbar icon then, after a short pause while the program converts the file, a save box will pop up.

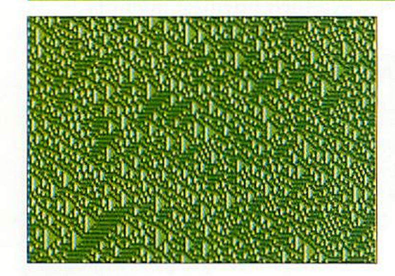
You can save the resulting file in the standard way. Note that the filename is usually the same as the HTML file – but if the original HTML file has a DOS extension of /htm or /html then this will automatically be changed to /txt .

Clicking Menu on the iconbar icon opens the main menu. If there is no file loaded, then the File submenu will be greyed out. Otherwise, it contains three options: *About* which shows a little information about the HTML and Impression files. *Save Impression* lets you save (or re-save) the Impression file. *Save HTML* to save (or re-save) the original HTML file. *Clear* removes the data stored by the program, freeing application memory.

The application can convert a number of standard HTML tags, including <h1></h1> <pre></pre> <listing></listing> <code></code> <quote></quote> <center></center> . This is *not* the complete list, please refer to Philip's Help file for the full set. It can also convert &characters: For example, &aacute, &middot, &amp, &times, &fish and so on. It correctly handles lower and upper case when appropriate. Again, please refer to the help file for a full list.

Crystal Tips

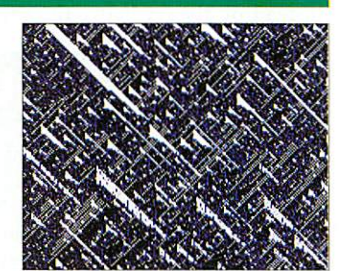
Author: Nigel Stoner



Cellular automata come in all shapes and sizes and we have seen many variations over the years. **Nigel Stoner**'s examples demonstrate how (relatively) convincing natural processes can be simulated by using automata.

Both *CAcrystl* and *CAscales* use the same one-dimensional cell grower, but the two use different growth 'rules' and different pixel colourings.

These subtle changes turn the ice crystal of the former into the lizard scales of the latter.



((8 - 6) * (1 + 2)) / (10 - 4)

Author: Nick Craig-Wood

Following on from October's feature on recursive sentences, we have two more examples for *Expound*. These have all been supplied by **Nick Craig-Wood** and demonstrate some interesting other uses for the program.

Numbers defines the numbers 1 to 10 using simply arithmetic operators and, of course, the numbers 1 to 10. 6 is therefore 2 times 3, 2 is 1 plus 1 and so on. Because of the recursive expansion this means that an expound of a given number always evaluates to that number. Try double-clicking *Numbers* (which will expound the first entry in the file: 1), joining the lines of output together, stick a **Eval* command on the beginning and executing the result. Assuming the sum isn't too long, you should get the answer one!

Trig is another mathematical example based on the properties of the trignometical function *sin*, *cos* and so on. Again, the first entry is 'one' so the result of any expound would evaluate to one. The terms have been written out in words, so you won't be able to get the computer to check the result. Thinking back to A-Level maths, I'm sure all our pure maths questions were made up using this...

We are still very interested to see any other uses for Expound – does anybody fancy writing some Expound music?

Half a dozen balls

Author: Scott Boham

Regular contributor **Scott Boham** would like to demonstrate *'just how stupid you must be to play the lottery! (sorry, no offence)'*. Well, as I pulled up outside my Chateaux on my weekend Ducati, I did kinda wonder what he was talking about, but then I woke up and realised it was all a dream...

Lottery picks six random numbers and a bonus and then compares these against either a constant set of numbers or a set randomly picked each time. It counts the number of matches and then counts up the number of £10, £75, £1000, £100,000 and £8M wins. Obviously the larger prizes would vary in real life, but the above figures give a good idea. Of course each run still costs a pound, so your expenses, wins and profits are shown on screen. Assuming one play a week, the number of years played is also shown.

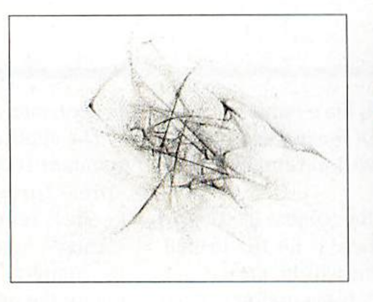


Scott's second offering is slightly less engaging. *!Puzzel* is a desktop diversion a bit like a sliding block puzzle, you must use the arrows on each side to scroll the numbers around. Try to get the numbers in ascending from the top left corner. Scott says it may seem impossible to start with but once you get the hang of it you can complete it in under 20 seconds.

Never the twine

Author: Dave & Dave

Doodling around one afternoon in the *info office, we came up with this interesting graphical doodle – *Twine*, based on a surprisingly simple function. We started by randomly scattering points about the screen, In *Twine0* we pick 100 random points and store them in an array.



Each point is plotted and then moved a short distance towards the next point in the array which of course is also plotted and then moved towards the next point... Each time the point is only moved 100th of the distance towards the next point so in theory the should never meet. In practise all the points eventually converge in the middle of the screen somewhere in a big white mass.

Twine1 has been modified to produce a pencil-like drawing. It uses a finer screen mode – Mode 31 – and sets up a grey scaled palette. As before points are plotted, but instead of always being the same colour, the point is examined first and is plotted one shade of grey darker. If it is already black, then a counter is incremented. When this reaches 10,000 the plotting stops, there is a short pause and a new set of points chosen. This prevents the detail in the centre of the screen getting blotted out. *Twine2* is the same as *Twine1* except the background is kept back and a random 'foreground' colour is selected for the line.

The final development is *Twine3*. This uses the same resolution as Mode 31, but sets up a Risc PC fully definable palette. The 256 colours are then split up into 16 palettes of 16 shades. With palette 0 and palette 15 having randomly chosen foreground colours. The palettes in between are defined to produce a smooth transition between these two. Each pixel plotted (and there are now 500) also has a palette number between 0 and 15.

When a pixel is plotted, its intensity is increased as before (by adding one to the lower nibble of the byte on the screen), but its colour is also changed to the colour of the new point (by setting the top nibble to palette number of the pixel). To speed things up, direct screen peeking and poking is used rather relying on the rather esoteric POINT and TINT commands.

In addition, the rate at which the pixels converge increases, starting at 1/50th of distance this is reduced by 0.5% each frame. As before, plotting stops when 10,000 pixels have reached their brightest intensity.

*QUIT

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*INFO, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or, if your submission is about 100K or less, e-mail us (including your real address please) at: austarinfo@idg.co.uk

You needn't include a letter but please put your name, address and program title on every disc and include a text file containing your name, address, disc contents and program details. If you are responding to one of our challenges, please mark your envelope clearly with the name of the challenge. An SAE will ensure your discs are returned. *info submissions only please – if you would like to send something to, say, *Pic of the Month* your submission will be dealt with more quickly if posted separately.

We would like to apologise for our seeming neglect of e-mail submissions. It has only recently come to light, but there was long period during which no e-mail sent to the above address was being forwarded to our own personal addresses. We believe that this has been sorted out now, but if you have not had a reply from an e-mail submission, please resend it.

Compatibility table

Program	RO 2	RO 3.1	RO 3.5+
!Puzzel	Yes*	Yes	Yes
Lottery	Yes	Yes	Yes
!Expound	No	Yes	Yes
Oesophagus	No	No	Yes
!HTML>Imp	Yes**	Yes	Yes
!Patience	Yes	Yes	Yes
!Tunnl	Yes†	Yes	Yes
Freedom	Yes	Yes	Yes
!Linez	No	Yes	Yes
CA crystl	Yes	Yes	Yes
CA scales	Yes	Yes	Yes
Twine 0	Yes	Yes	Yes
Twine 1	Yes	Yes	Yes
Twine 2	Yes	Yes	Yes
Twine 3	Yes	Yes	Yes
Pattern 7	Yes	Yes	Yes
SIER-TRIAN	Yes	Yes	Yes
FlameLet	No	Yes	Yes
Sparkline	No	Yes	Yes

*Sprites not visible **Sprites look odd †Needs more than 1Mb

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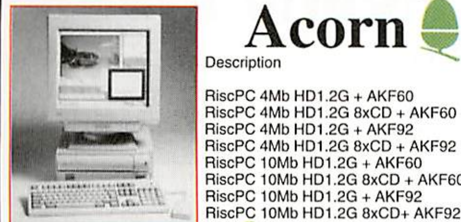


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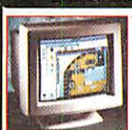
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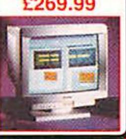
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Rambles through Acorn Wood

Another question and answer session from **Mike Cook**

My PIC project seems to be whipping up some interest, if not controversy, and I have had some flack for what it can't do. Not that I mind bug reports, these are very useful. Bug reports are one thing but reporting behaviour as bugs when it is meant to happen is another thing.

The difference is that this behaviour is described in the help file. There are lots of different assemblers for all sorts of processors and the syntax is slightly different in them all – there is no such thing as a standard. However, some forms of syntax, while they might be short, are confusing – especially for the beginner.

Take, for example, the destination of an operation. With my assembler you have to specify where the result of an operation is going to, either a file with an 'f' or the accumulator with a 'w'. Other assemblers assume that if nothing is specified it defaults to an 'f'. Another example is the use of numeric constants. With my assembler, if the number you are trying to use is too big it flags an error, on other assemblers it just chops the number off so that it will fit.

The hassle comes when you want to convert from one assembler to another – then there is a dilemma. Should I make my assembler accept these tricks and so perpetuate what I perceive as bad programming practice or should I stick to my guns thinking I know best? Let me know what you think. In the meantime a new version is on the cover disc containing fixes for the real bugs that have come to light so far.

Anyway, there has been a big response from my request for more feedback so let's kick off with a problem that has been aired for three months in a row.

How can Chris Bell, or anyone for that matter, tell if a printer is online and ready to go? J.G.Harston has a suggestion for Chris's printer problem:

The solution previously suggested tests if the parallel device is online which is not quite the same thing. What if the printer is serial, or network, or redirected to a file? This is a perennial problem going back to the Beeb, with programs hanging waiting for a non-existent local printer because they don't realise that a network printer has been selected. A better solution would be to test the parallel port only if the parallel printer is selected.

```
DEFFNPrinterOnline
2LOCAL type%,S% SYS "OS_Byte",245,0,255 TO ,type%
IF type%<>1 THEN =TRUE
/SYS "Parallel_Op",0 TO ,,S% =(S% AND &A0)=&80
```

Then you can use:

```
-IF FNPrinterOnline THEN do your printing...
```

My reading of the PRM suggests that after using Parallel_Op 0 testing for =&80 (NOTBUSY=1 and PAPERERROR=0), rather than <>&A0 (NOT (NOTBUSY=1 and PAPERERROR=1)). Osbyte 245 reads the current printer destination. If it is not type 1, the parallel port, the function assumes that it is online. This is usually a valid assumption as, for example, a network printer would spool to local storage if its printer was off-line. This doesn't cover the full problem of the destination network printer server being absent, or of a serial printer being unplugged. We really do need a proper 'Is there a printer there?' call that will cover all cases.

If you remember, Chris also had a problem with merging systems. There have been a few suggestions for this – funnily enough all different. Tony Houghton thinks it might be this:

The Configure System merger in RISC OS 3.5+ is officially deprecated as far as I know. It has a problem with the multiple paths in System$Path, so that when new versions of modules are installed they don't necessarily overwrite older versions that get searched for first in the path.

This is also a fault in the Acorn C/C++ installer, affecting the Toolbox modules. SysMerge is OK. As for the memory errors, I expect he's trying to install from an archive. The OS copy SWIs used by SysMerge claim all the memory available in an attempt to speed up operation; there is no way of preventing that, short of using FilerAction SWIs instead. This means that the dearchiver can't claim enough memory for its workspace. SparkFS has an option to claim and retain memory in advance to get around the problem, but ArcFS doesn't as far as I know.

James John Robinson has another suggestion:

The error Increase Free Memory is probably due to the fact that SysMerge hasn't enough memory reserved for itself. The answer to this is to increase its wimpslot in its !Run file.

And yet another thought from Mark Fraser:

Recently when upgrading some software on my computer I came across the 'increase free memory' error reported by Chris. This seems to be because the upgrade was archived and, once dearchived, the error disappeared. Perhaps he is using !SysMerge from inside an archive.

Thanks for all that, hopefully that one is nailed down for good, is it Chris?

Angus Thomson has a problem with inputs and outputs – right up my street:

I have followed your articles for quite some time and have made up some of my own projects. I am having a few problems though, with using more than two inputs. In short, I can't. The reason I contact you is that my GCSE project involves inputting data to an Acorn, but with only two inputs I'm a bit stuck.

You don't say which model of computer you have, but I assume that it only has a single direction printer port. If that is so then you will only be able to read the Busy (pin11) and the acknowledge (pin10) of the port's status register and you will need some more hardware.

The choice of hardware will depend on the number of inputs you need and the speed you want to access them. First off, you could buy a User Port expansion card – this is the most expensive option but would give you the fastest access. Alternatively you could use the handshaking lines of the serial port, this is described in my October 96 article.

Depending on the type of input signal you have, you could get four inputs without any hardware. Next you could use the IIC bus described in the December 95 issue. You can chain these devices together – each one giving you eight inputs. Then there's the serial I/O board in February 97, this gives you eight inputs. Finally, you could make the bidirectional printer port converter in the September 95 issue – that would give you 16 inputs. If you want more that this then you can use the multiplexing techniques described in that article to give you as many as you want.

Jandr Kay wants to measure something, he writes:

Is it possible to get my StrongARM Risc PC to measure the resistance of part of a circuit through the printer port? If so, how should I go about doing this, and what would I need to write the software to run it if it isn't available?

While you could do this on the original model B, you can't on modern machines without extra hardware. It all depends on what accuracy and resolution you want. The simplest and least accurate would be to use the resistor to charge a capacitor and time how long it took the capacitor to charge. This



Rambles through Acorn Wood

is essentially what my June 96 article described, but as an analogue joystick interface.

However, for maximum accuracy you need the digital voltmeter in the February 96 article. Simply measure the voltage drop across a known value resistor in series with the unknown resistor, then simply use ohms law to work it out.

Another in the seemingly never ending quest for printer drivers P. Cooper requests:

I have recently purchased the new Epson Stylus Colour 300 for use with my Risc PC 700. I am having problems finding a printer definition file for this model. Are Acorn supporting this model? If so, are they bringing out a specific definition file, or is there a suitable alternative available? So far I have tried a number of different Epson files for the 400, 600, 800. The print command is accepted, however the end results are in grey scale, with ugly banding.

Sorry, never even heard of the model, let alone a printer driver for it. However, being Epson I am sure one is bound to appear soon. It's worth mentioning that it's perhaps advisable to check whether a printer driver is available before you purchase a printer.

J. McIntyre has some advice over PC compatibility he says:

I read about the problems with the Maplin – and other – PIC programmers in last month's page and thought it might be helpful to report that I have been using Microchips PIC-Start plus programmer on a StrongARM Risc PC with the 33MHz PC card without problems.

The parallax STAMP programmers don't work very reliably. I have found C from CCS and Basic from Micro Engineering Labs are both nice compilers which are compatible with most PICS. (I wanted to program but I didn't think I would ever be able to understand and debug assembler). The C compiler supports floating point arithmetic.

I have been using Ultimate Technologies PCB design software with the PC card on a 600 series Risc PC but found that it doesn't work with the StrongARM processor. I think this is something to do with Ultimate Technologies display drivers and the faster processor. I am trying to find a solution but may end up having to revert to the 600 processor when I want to design PCBs – unless anyone out there has found a solution to this problem already.

Stephen Courtney from Carisbrooke High School wants to know a bit more about a project:

I am contacting you to enquire about the technology involved in making touch screens work. I have a copy of your article on how to build one for an Acorn computer so I thought you may be able to help me, especially with the actual physics of the detection.

The detection of finger position relies on the breaking of an infra-red beam. The physics of this involves a PIN diode – one made up of a three layer sandwich of P type Intrinsic and N type silicon. Light photons collide with the atoms in the 'I' layer and knock out electrons. These are then attracted to the N layer and the result is that there appears to be a current flowing through the device.

When your finger blocks the light the current stops flowing. If the current flow is passed through a resistor you then get a voltage change depending on whether the beam is blocked or not. Yes, I know it is a simplified explanation but wait until you go to University for the full physics explanation complete with mathematical formula.

Andrew, no second name, contacted me via e-mail. He wants to track down an article:

I saw a summary of an article you wrote about controlling the DMX 512 with a PIC. How can I obtain that article? Also, any other information you can provide about this process would be appreciated. I have programmed the PIC 16C5x series, but I do not have any 'real' experience programming on the more sophisticated PIC micro controllers. I have zilch experience with the DMX 512 protocol.

Well you can't get hold of that article because I have never written it. However, it sounds like a good idea and I'll bear it in mind. You might be mixing it up with an article in the January 96 *Acorn User* which was about making a DMX 512 lighting controller interface to plug into the printer port. If you want more information about the PIC 16C84, I have a disc for £3. See the October 97 issue for more details.

Pete Margetts and his partner Mitzi describe themselves as 'An oasis of Kiwi Kulture [SIC] in the English Desert!' and they have written to tell of advanced telecom goings-on down under:

A query from Dave Lawson in the October AU on your page interested me. I have just moved here from New Zealand and have re-established my Internet connection. I had the 'call waiting' facility on my phone line in NZ and the same problem occurred when you were online. The answer over there was that the 'call waiting' facility could be overridden for the duration of a call by merely entering *52 before dialling the number.

I realise that the telephone system is different here, but that information was not widely known even over there, except among the online fraternity. What I did was put *52 as the dial prefix in the ANT Suite (where it gives the chance to put '9' if you were on a switchboard) and that did the trick. I suppose it's worth a try. I know that NZ's phone network is now about 95 per cent digital, so maybe it's not possible here just yet. Contrary to popular opinion, the electronics world is a few years ahead over there.

As indeed it is. I managed to extract the confession from a BT information operator when I checked if the facility was available in this country. He told me the same information as J.G.Harston e-mailed me for the second time later that week. Dave Lawson keeps losing his connection when Call Waiting buzzes in. BT's Call Waiting can be temporarily turned off by dialling #43# and back on again with *43#.

I used to append this to my dial-out string so instead of sending the modem the command ATDT 01707 323531 I sent ATDT #43#;01707 323531. I had to remember to manually dial *43# after logging off to turn call-waiting back on again. Of course, the best solution (which I now have), is to have a dedicated phone line just for the computer.

Finally here are some questions I don't have the answer to. Let's start with Alasdair Yates, he writes:

I have a StrongARM Risc PC, and have recently acquired a 8xCD-ROM drive made by MIRAI, which appears not to work. When I click on the CD-ROM icon I get the error message 'Broken CD' or something like that. If I try to use the audio CD player application in the Utilities directory, nothing happens.

I have another audio player called *!CDPlay* (from Hensa) which announces in a window that the drive is empty when it isn't. I also have (yet) another audio player, called *!CDSample* (Hensa, again) which works. I noticed in the directory there is a file called AtapiFix which overwrites some of a module (it doesn't say which one) with a patch to make it work. However, even with this fix in place I still cannot get the Filer to accept that there is a CD in the drive. Do you know of any patches available to make it work, or am I stuck with an unusable CD-ROM?

Anyone with a patch for that?

I would like to thank you very much for the Coin Counter which you ran in one of your Body Building columns in *Acorn Computing* many moons ago. I built the project as a GCSE project, and managed to get it to work first time. I duly gained an A* grade for D+T Electronics.

Now I want to ask a question – is there a way of porting *!Draw* files to the PC as a vector file without losing the resolution as you would by taking a *!Paint* snapshot and converting it to a bitmap?

I want to be able to draw circuit diagrams and apparatus setups for physics on the Acorn using *!Draw* and embedding them into a *Word* document. I would use the Acorn for the write-ups as well, but my dad's 200MHz Pentium is already out-of-date (he only bought it six months ago) but knocks spots off my A3010. Without spending money, there are no applications on the PC which are as versatile as *!Draw*.

I am thankfully not that knowledgeable about PC freeware, does anyone else know?



Contacting me

You can contact me, Mike Cook, by post at the usual address or by e-mail at: auqanda@idg.co.uk

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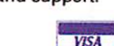
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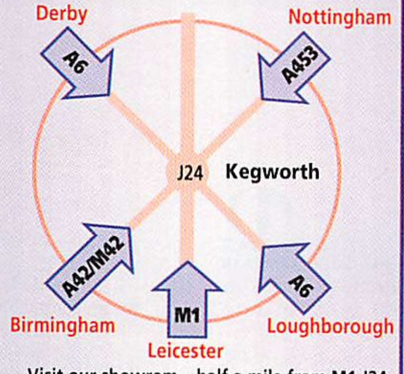
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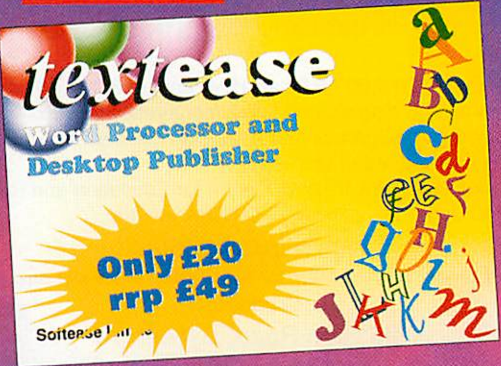
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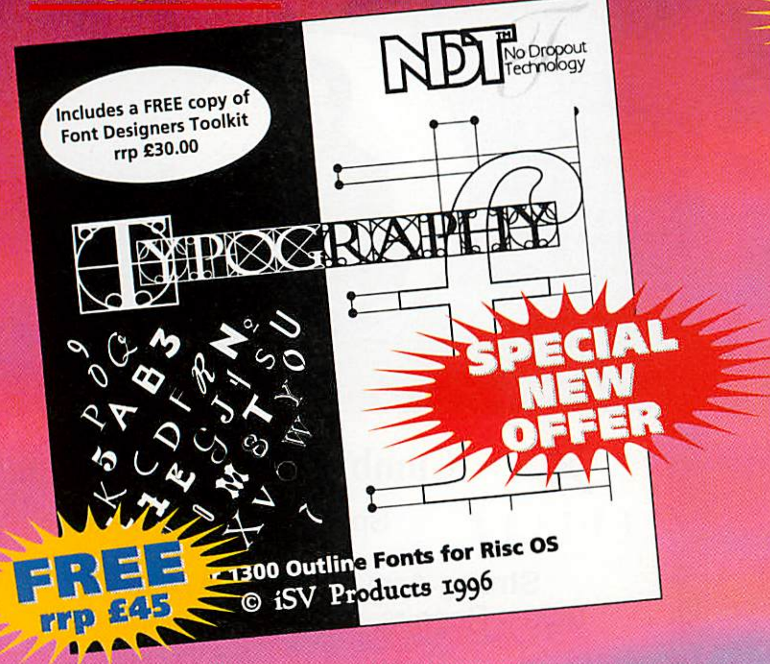
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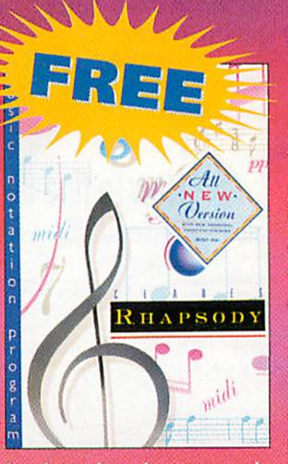
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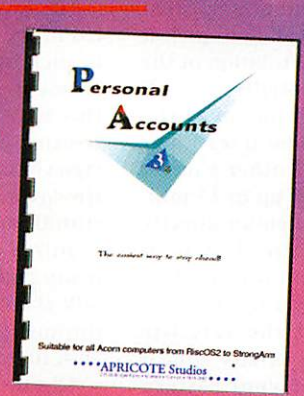
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Mike Cook's hardware series



The view

The first part of **Mike Cook's** satellite images decoding project

Remote imaging has always been one of my strong interests and I have wanted to construct a satellite image decoder for a long time. Now I have actually got down to it so let's see how we can receive weather satellite images on our computer. Not all computers are up to the job due to display and memory requirements, so I think that this is a Risc PC project only – the others will work but you won't have the quality of display to get the best out of the project.

There are basically two types of weather satellites – geo-stationary and polar orbital. The geo-stationary type gives a view of the whole of the Earth from a point above the equator, it's the type you see on the TV weather forecast. That's fine for an overall view but at this latitude the view over Great Britain is a bit distorted due to the curvature of the earth and the situation gets worse as you get closer to the poles.

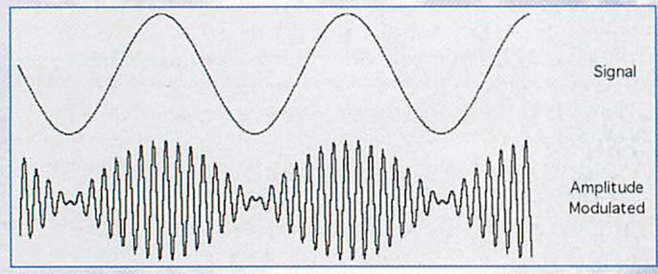


Figure II: An amplitude modulated signal

So for a more detailed local view of the weather, polar orbital satellites are used. These don't actually fly directly over the poles but do pass within a few degrees of them. They scan the Earth as they orbit and send down a continuous stream of imaging data, this is shown in Figure I.

The image is produced by a rotating mirror which reflects a small spot from the Earth into a light detector. As the mirror spins a whole swathe of land is scanned. When the mirror makes its next rotation the satellite has moved slightly in its orbit and a different part of the Earth is scanned. In this way an image is built up of the Earth as seen from directly underneath the satellite.

However, you can't receive the satellite signal all the time because it is in a low orbit and most of the time it is hidden by the curvature of the Earth. But when you can receive the signals you will get a view of your part of the world. For us in Great Britain this means we can receive images from Iceland to the North coast of Africa, but wherever you are, your location is always on the central line of the image.

The orbital period of these sorts of satellites are about 100 minutes but that doesn't mean you will be able to pick it up every orbit. Due to the rotation of the Earth underneath the satellite not all orbits can be received, but over the course of a day there will be at least four good passes and several other shorter ones. A good pass can last up to 15 minutes and will be close to going directly overhead. A poor pass might last only a few minutes and the satellite will briefly appear over your eastern or western horizon.

The length of pass determines the size of image you receive as the satellite is always imaging a swathe of land centred directly below it. There are two American satellites that are always operational with a reserve satellite already in orbit in case one should fail. In addition there are a few Russian satellites and the odd one from other countries. An organisation dedicated to keeping a watch on these and using them is RIG: the Remote Imaging Group. Their quarterly journal keeps you up-to-date on what is happening as well as having lots of articles on home construction and techniques, see the box for details.

These satellites transmit both high and low resolution images. The high resolution images are transmitted in the microwave region and take quite an expensive set-up to receive as they have to be tracked by a moving dish. Although if your pocket is deep enough you can do it, it is the low resolution images I want to look at because these are the easiest to receive. However, even at low resolution, a good pass will produce a 5Mb sprite file.

The low resolution image is transmitted in the 137MHz band and is quite easy to pick up. Unfortunately, the last government allowed paging transmitters in this band, disregarding international treaties. So, receiving interference-free signals is not as easy as it once was. However, you can use an omni-directional aerial where no tracking is required. You can get receivers from many places including Maplin and I will talk about them in a later article but, for this month, I want to look at what to do with the signal received.

The image is sent in the form of an amplitude-modulated audio signal of 2.4KHz. Figure II shows a signal and what it looks like when it is amplitude-modulated. It's easy if you think of it as the loudness of the audio signal depending on the brightness of the image at any one point. What we need to do is to convert this trembling audio tone into an analogue signal and then digitise it.

Also we need to generate a clock signal to tell the computer when to read in a pixel. This could be derived from the audio signal itself but in practice it is best not to. This is because, as the satellite passes over, the signal strength varies due

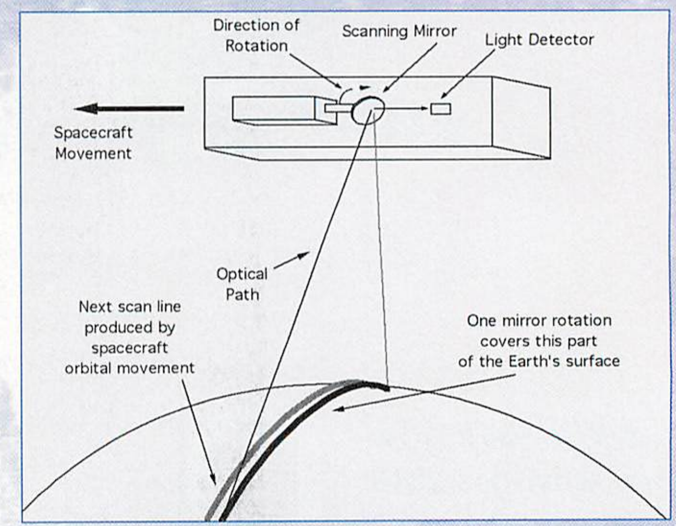


Figure I: How the image is gathered

from above

to the change in angle and changing satellite distance. This means there are times when the signal is not strong and hiss or interference is heard. If the clock signal were being derived from the audio signal you would lose it at times and the picture would lose synchronism. Therefore, you are best to derive the clock signal from a stable crystal oscillator.

Audio Input
Band Pass Filter
Amplifier
Precision Rectifier
Inverter
Precision Rectifier
Mixer
Lowpass Filter
Reference Oscillator
Divider Chain
Strobe & Handshake
A/D
8
Control Printer Port
Data Inputs Printer Port

Figure III: Satellite Demodulator and Digitiser Block diagram

The block diagram of the decoder is shown in Figure III, a reference oscillator is used to generate the handshaking signals for the computer and the audio signal is processed to feed an A/D converter. The heart of the circuit are the precision rectifiers, these detect the negative peaks of the audio signal but because one is fed with the inverse of the audio signal we detect both the positive and negative peaks. When these two signals are mixed we have what is known as full wave rectification.

On to the real thing, shown in Figure VI. This might look like a complex circuit but, as you get four operational amplifiers in one package, it is very much simpler than it first looks. The amplifier chips are labelled A and B and they need +7.5 volts on pin 4 and 7.5 volts on pin 11. These voltages are not too critical but need to be a few volts above 5 volts as most amplifiers can't drive the signals close to the supply rails.

The diode types are not critical either but you should use a small signal diode rather than a rectifier type. The digital circuitry needs 5 volts and a 1.8432 oscillator. You can get oscillator modules of this frequency but if you prefer you can construct a normal type of crystal oscillator. If you do this make sure you include a small capacitor to trim the frequency. The circuit makes use of the computer's parallel input routines, at regular intervals determined by the oscillator and divider circuitry the ACK line is driven low by flip-flop 2. This causes the computer to read the input bits on the printer port. When it has done this, the computer generates a strobe pulse, this is used to kick start the A/D converter for the next sample. The ACK line is driven high a short time later by a signal on the flip-flop's preset input. So data is clocked in at a rate of 4.8 KHz – that's twice the carrier frequency. In order to use this routine, the busy and the select lines must be grounded as shown.

The NE567 is a phase-locked loop tone decoder and is not strictly necessary and so could be left out. It's purpose is to detect the incoming audio frequency and light an LED when it sees it. This signal could then be used to tell the computer that an image is being received, but I don't use it in my setup. It has an important use if you want to record a satellite pass for decoding later.

Straightforward recording is often unsatisfactory due to variations in the tape speed, these will show up as skewed images. So the standard trick is to use a stereo recorder with one track for the audio and the other recording the clock signal, this can be obtained from pin 2 of FF1. On playback the clock track is sent to the input of the phase lock loop, pin 3 via the capacitor and the connection to pin 7 of the amplifier is disconnected. Also the output, pin 5, is used to as a clock for the data, pin 11 of FF2. Note if you do this you will have to have a switch to select pin 5 of the NE567 or pin 5 of FF1 for pin 11 of FF2.

In this way any tape speed variations are reflected in changes of clock signal frequency and are automatically cancelled out. A simpler but more expensive solution is to get a mini-disc recorder as this will not suffer from speed variations. It does however have an audio compression circuit that could distort the signal but I have found it gives good results.

Well that's about all I have space for, so tune in next month when I will show you the software you need to display the images.

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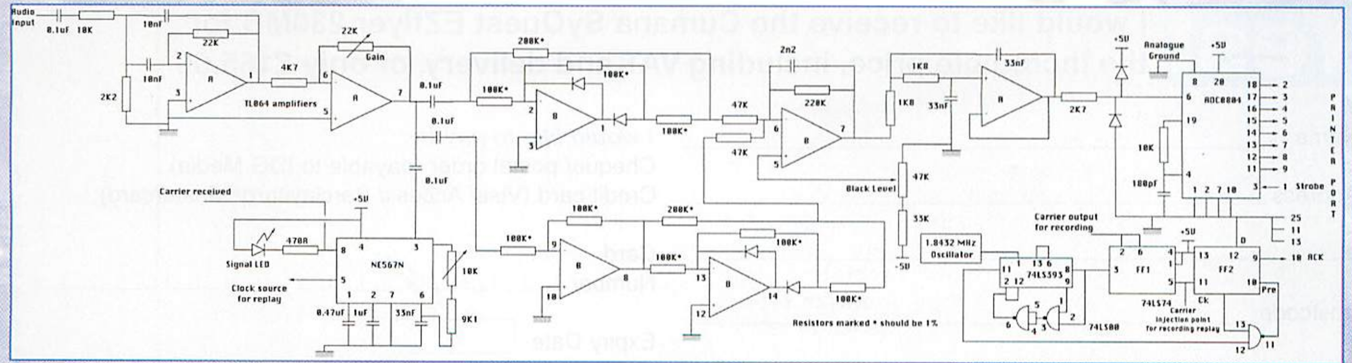


Figure IV: The complete circuit – not as complex as it looks

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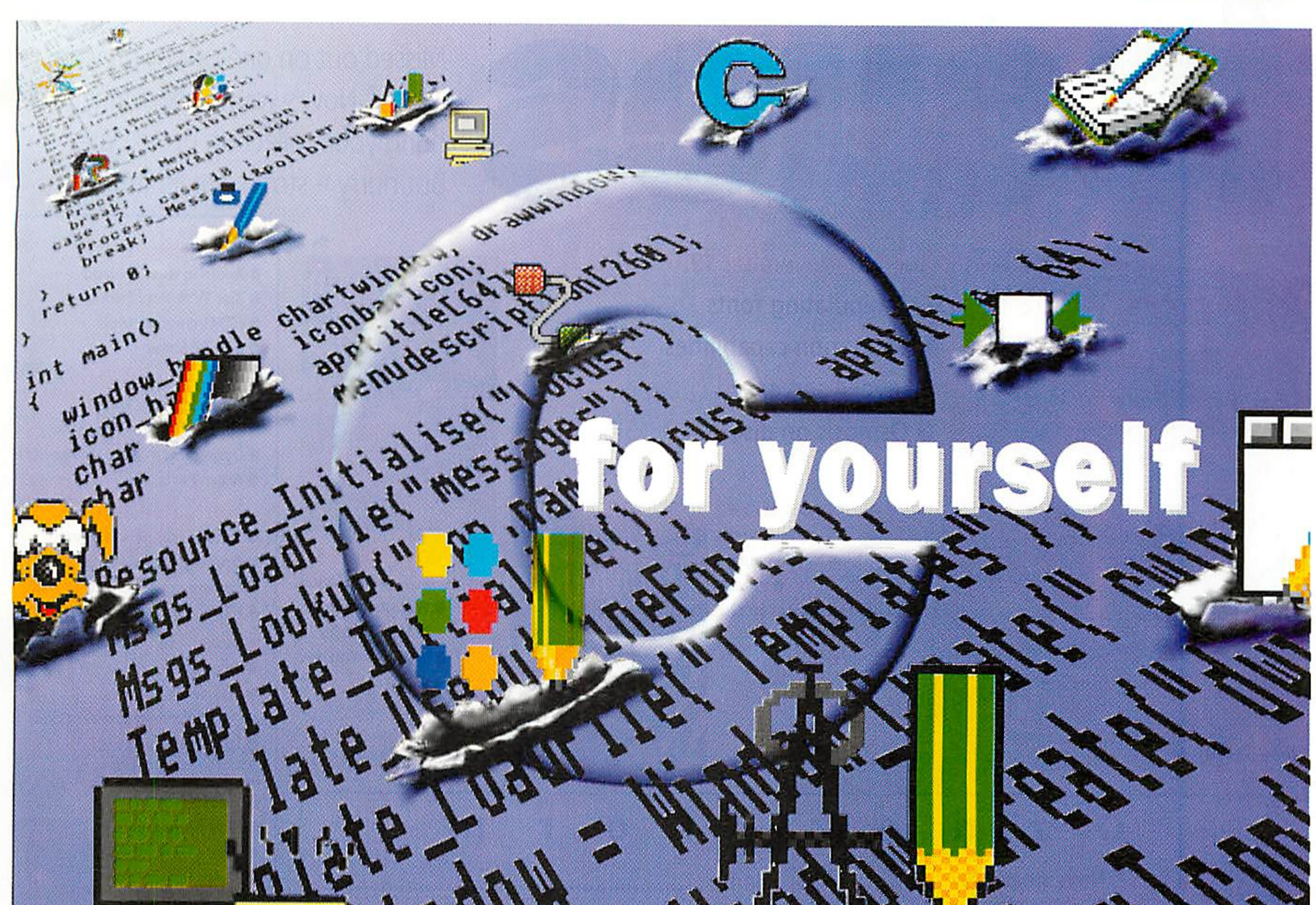
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ACORN USER CUMANA



JACK KREINDLER

Steve Mumford details some font-handling additions to *AULib*

This month, I've worked on packaging the system calls we've seen over the last couple of columns into easy-to-use procedures within the *AULib* library file; with any luck they should make the process of font manipulation a little easier to bear. A short, single-tasking chunk of code to paint some text to the screen now looks something like the following; without the assorted paraphernalia of SWI registers and font flags, the source looks a lot simpler.

```
#include "AULib.h"
int main(void);
int
main(void)
{
fontsize = 24*16;
int fontres = 0;
int font_handle = 0;
font_handle =
au_findfont("Homerton.Medium", font-
size, fontres);
au_selectfont(font_handle);
au_setfontcolours(COLOUR_WHITE,
COLOUR_RED);
au_fontpaint("Hello World!", 500,
500);
au_losefont(font_handle);
}
```

Quickly running through the syntax, **au_findfont()** takes a pointer to a string followed by two integers – the string is the name of the font to be used, in standard Acorn nomenclature, and the integers are the font size and resolution respectively. The procedure returns a font handle as an integer value; this should be stored away for later use. When using the given arguments to find the font you requested, **au_findfont()** assumes that the values for font size and resolution are to be used for both *x* and *y* dimensions, but in most cases this should be sufficient. Once you're certain you won't be using a font any more – when a mode change has produced a mismatch between screen and font resolutions, for instance – calling **au_losefont()** with the integer font handle will dispose of it and clean up the font cache for you.

Selecting the font is performed by calling **au_selectfont()** with the font handle generated above as its only parameter; **au_setfontcolours()** takes two integer values for the background and foreground colours of the text respectively. I have **#define**d a few within the *AULib* header file; the ones used most frequently are likely to be **COLOUR_BLACK** and **COLOUR_WHITE**. They take the form of a four-byte hexadecimal number that looks like the one shown below, where the values substituted for BB, GG and RR are the levels of blue, green and red in the final colour.

```
int colour = 0xBBGGRR00;
```

au_fontpaint() takes a pointer to a string followed by a pair of *x* and *y* coordinates – the procedure assumes they're in OS units, and plots the given text to the screen using the currently selected font and colours. Again, care should be taken when handling graphics update within a multitasking program, as there's no guarantee the font settings you last used will persist throughout the Wimp_Poll cycle. It's wise not to make any assumptions and you should re-select the font and colours when your program regains control.

On the subject of multitasking programs, I've included a conversion function to map coordinates relative to a particular window into their absolute positions on screen. Window offsets and scrollbar positions are taken into account, allowing the programmer to maintain objects without having to interrogate the pollblock and perform wodges of maths every screen update. The **au_convertwindow_to_screen** function takes three parameters; the first is a pointer to the data block containing the coordinates of the window and the scroll bar offsets, and the second and third are pointers to two integer variables. Using pointers in this way allows the function to update the coordinates directly, avoiding having to create special data structures in which to return the two converted values. An example of its use might be as follows:

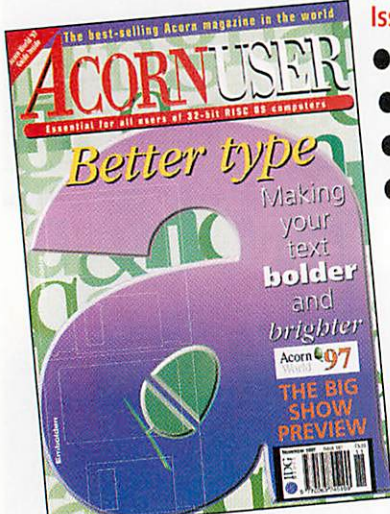
```
x_coor = 25;
y_coor = -250;
au_convertwindow_to_screen(datablock,
&x_coor, &y_coor);
```

Assuming **datablock** points to a block of memory in the format as returned by either **Wimp_GetRectangle** or **Wimp_Redraw Window**, the function will take a note of the addresses of **x_coor** and **y_coor**, altering their contents directly so they can be used for plotting immediately after the function call. It would also be possible to write a function to perform the opposite conversion, allowing a program to take the coordinates of a mouse click and translate that to see at what position it occurred relative to the window.

Next time round, we'll move onto capturing output and sending it to an appropriate printer; this is similar to the process of redrawing a window within the WIMP environment. Although not perhaps as stimulating as one might wish, an application such as a label creation utility would allow us to make good use of all the knowledge we've gained to date – we'll make a start on that next month. AU

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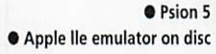
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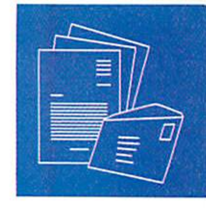
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Millenium bugged

As I'm always on the lookout for a quick £50 I'm writing in reply to your challenge about applications that won't go past the year 2000.

I have been using a copy of Minerva's *Home Accounts* (2.01) for several years and it only accepts dates in two figures. Consequently all my standing orders grind to a halt at the end of 1999.

David Braine
Warrington, Cheshire

I think that Home Accounts, from Minerva stores its dates in two digit form. I bought my copy in a bargain bucket from an Acorn User Show (or had it changed to Acorn World) a few years ago, so I don't know if it is the latest version but even if it isn't this program has been around from the time of Arthur.

Other than having a garish colour scheme, which a copy of TemplEd fixed, it isn't bad and still runs on my Risc PC (with a little bit of tweaking). The date in the program is 1988, definitely well before 1996, so I claim the £50. A glance through this issue of *Acorn User* shows it is still being sold. I hope they noticed and fixed this bug.

I guess it shows the usefulness of writing applications in BASIC and not compressing or compiling them; if this had been a C program or the like, it's more than likely that no changes could be made to coax it to run on newer machines or fix these little bugs.

David Hobson
David@nazca.dircon.co.uk

The version of *Fireworkz* I currently using in school has a release date of Janurary 1996, and the version I run on the A420 I have at home has a release date November 1993.

Neither versions are so-called *Year 2000 compliant*. Colton Software had better get their act together on this, as it seriously lets down an otherwise excellent and very powerful package.

On another topic, does anyone know what CMOS byte is used to hold the option of *Configure BootNet. I am really racking my brains over this, but no one seems to want to help me. Can somebody shed some light on it please?

James Robinson
y91.robinsojj@bgoresch.demon.co.uk

Due to the vagaries of the post and retail distribution David Braine's letter was the first to arrive so he wins the £50.

No 2000 bug

I've just read the letter on page 79/80 of the October AU re Year 2000. If you get any claimants for *Personal Accounts 3* — don't pay up.

The reason is that PA3 has its own year 2000 detector and a year entered as '00' will be interpreted as '2000'. It is good up to the year 2049.

In case anyone is interested, the orginal code was written for the BBC Micro market about 10 years ago (where memory was a problem), and although it was entirely re-written for RISC OS I kept the original format because the code was designed to handle dates between the years 1950 and 2049.

Quentin Pain, Apricote Studios
apricote@enterprise.net

Wrong source

The letter 'Cover comment' in the October issue was actually sent in by Robin Clive-Matthews (robin@arcstone. demon.co.uk).

Apologies for the mix up.



Where is Acorn?

'Acorn? They're not still around, are they?' The familiar cry of PC users for whom the word "Acorn" still conjures up images of the Electron, BBC Micro or A3000 — fine in their day but now showing their age.

I have looked on as our school computer room, once filled with A3000s was overrun by droning, slow PCs. My only pleasure now being to watch as one of them crashes every five minutes. But recently, even as a dedicated Acorn user from the age of five, I have started to wonder if there's any truth in the rumour.

Apart from your loyal pages I have seen no sign of Acorn for six months now. My last three letters to their Customer Services dept — once a paragon of efficiency and helpfulness — have not been answered: the most recent being returned a month later *the addressee has gone away*. I scanned your recent News pages to no avail.

I relaised that without *Acorn User* I would have no idea Acorn were still doing business and certainly would never have heard of the NC. Do Acorn have a forwarding address? Or are they, like Elvis, only alive in the minds of their fans?

Robert Waters
Lincs

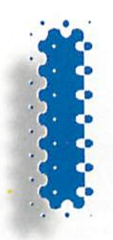
It's not quite that serious, but they did move away from Vision House and the Post Office is no longer forwarding their post so anyone using that address will be out of luck.

Address: Acorn Group plc, Acorn House, 645 Newmarket Road, Cambridge, CB5 8PB, UK

Tel: +44 (0) 1223 725000

Web: http://www.acorn.com/

However Acorn, according to their website, are generally not providing end-user support, instead they would like you to contact your local dealer or your nearest Acorn Centre of Technology. If, from the UK, you ring 0990 329070 you'll be put through to your nearest ACT.





Help

I wonder if you can put me out of my misery or at least point me in the right direction. I have a StrongArm Risc PC with 32Mb RAM 2Mb VRAM & 1.2Gb IDE HD & CD Drive and a Power-Tec SCSI II card used with an Epson Scanner. The PC Card is an Acorn 586/100 running with Aleph One's PCPro V0.06. I have allocated 800Mb for the PC partition and am running Windows 95. And I have problems — surprise, surprise ? running Compuserve for example (and some other programs).

I keep getting 'Illegal Operation' messages which means the program closes down and it has become infuriating, so much so I'm giving Compuserve up in favour of Argonet. The message comes up when I am scrolling up or down a window using the right-hand scrollbar but it does not happen every time I do this but enough times to be very annoying.

I have run Stuart Halliday's 'MemTest' on the RAM which indicated no problems and I have run a verify check on the HD and this too seems OK. Can you help me on this one ?

John H Osborne

BBC Micro help

I own a BBC Model B, OS 1.20 and I am very proud of it. The machine was bought as a gift for my brother in '84, since then he has bought a new computer and it has been in my hands since '92. I bought a disc drive for it, a printer and expanded its capabilities from when it was first bought.

Usually, I find what I need but there's one problem: You will never find anybody who has been looking for an AMX mouse and most of its software. I have written to clubs, software companies, computer stores, but no success.

So if anyone is interested in selling the AMX products, (starting from SuperRom and SuperArt, icluding the AMX mouse). I would be grateful if you could contact me at:

PO Box 5079
CY-3280
Limassol
Cyprus

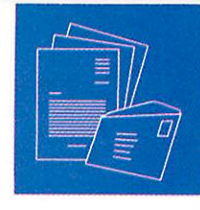
or e-mail me at baj134@zenon.logos.cy.net

Ziad Dawas
Cyprus

I am a camera

In reply to William Simpson's letter in *Acorn User* (November 1997) regarding the Canon Ion RC260 camera. As we were one of the leading suppliers of this item we do still carry some of the accessories for it including software to download images.

Paul Richardson
Cambridgeshire Software House
01487 741223



Millenium storms

The program *Weather Reporter 3.1*, by the Advisory Unit in Education, used by many schools throughout the country, stores its years with only two digits. The program is able to handle this, even when the clock is set forward beyond 2000 but a problem arises however when the data is exported as a CSV file.

The CSV file still contains only two digits and I believe that some database and spreadsheet programs, including AUE's own *Merlin* package will accept this form of CSV. Presumably this was done to make the datafiles compatible with PC programs which accept only two digit dates.

However as you point out most Acorn software uses four digits for the year, and in order to make use of the weather data to import into *Pinpoint* I have to edit the CSV file, adding "19" as a prefix.

As a further note I have found that some programs put alphanumeric values within "quotes", while others do not – all very frustrating when one is trying to transfer data across platforms and programs. Is there supposed to be a common format for CSV – if so what is it?

Are there any known problems with PC cards and the millenium bug? I use a PC card on my Risc PC which seems to accept being in the next century quite happily.

Paul Archdeacon
UplandsJun@aol.com

I don't know that there is an international standard regarding CSV files, however since an alphanumeric field may contain a comma it should be enclosed in quotes, otherwise it will be decoded incorrectly:

```
55, 88, "This, that, the other", 11
```

as opposed to:

```
55, 88, This, that, the other, 11
```

Clearly the second version will be imported incorrectly. More intelligent exporting software could look at the field and decide whether it needed quotes or not.

If you run PC software that cannot handle the year 2000 then it won't work even on a PC card in an Acorn machine.

Online help

I have started a programming area on the Internet so people can e-mail queries for programming or help give answers. Subject areas include: Basic, C/C++, Assembler, Wimp, general programing plus games hints and cheats.

This idea will only work if people will actually use it: beginners to find information, and experienced users to help answer queries. The web address is:

http://osiris.sund.ac.uk/~ca6mle/acorn.htm

Mark Leggett
sjproductions@argonet.co.uk

Paradise lost

William Simpson makes a number of very useful points in his letter, regarding the profile that Acorn have. I want to stay loyal to Acorn; I think their equipment is very easy to use and from what I read in *Acorn User*, I know others think the same. I want my school to be able to stay loyal too.

It therefore galls me to hear Bill Gates being touted as the Messiah, bringing the Promised Land of the Internet to schools by the year 2002, as though only he had the answers. Have Acorn targeted the politicians on this issue? What are they doing to raise their profile nationally?

However, Acorn users have to do their bit too. I have been using their machines for ten years, but I don't know of any Acorn user group in Lincoln. If there is one, I would like to hear about it, because I know I am not making the most of my machine but I have had to learn what little I know by reading and trial and error.

Richard Hall
rhall@argonet.co.uk

It's easy to identify Bill Gates with PCs and Windows but, fortunately or unfortunately, he has his fingers in more pies than this.

Bill Gates recognised quite a while back that the real power on the Internet will be with those who control the superhighway itself, the means by which the data is transferred. Not in the software that exists at the ends of the lines.

He's been working towards controlling that part of the market for a long time. Soon his corporation will be launching private satellites to carry the Internet. Sounds like a megalomaniacal adversary for James Bond perhaps?

But it's this area that the PM was talking to him about, it is of no interest to Bill Gates to have Windows 95 (or 98) installed on every computer in every UK school. The market is too small, there's no extra money being provided and Windows is supplied free with every PC bought anyway.

Bill Gates doesn't make machines, but he is planning to dominate the Internet as a data channel supplier.






Oh no, not Bugs

I could hardly believe what I was reading on the Letters page in the November issue. Paul Stewart wrote: "For example, a few Acorns most certainly wouldn't look out of place in programmes such as BUGS, BBC1's techno programme where the BUGS team can do anything with a computer."

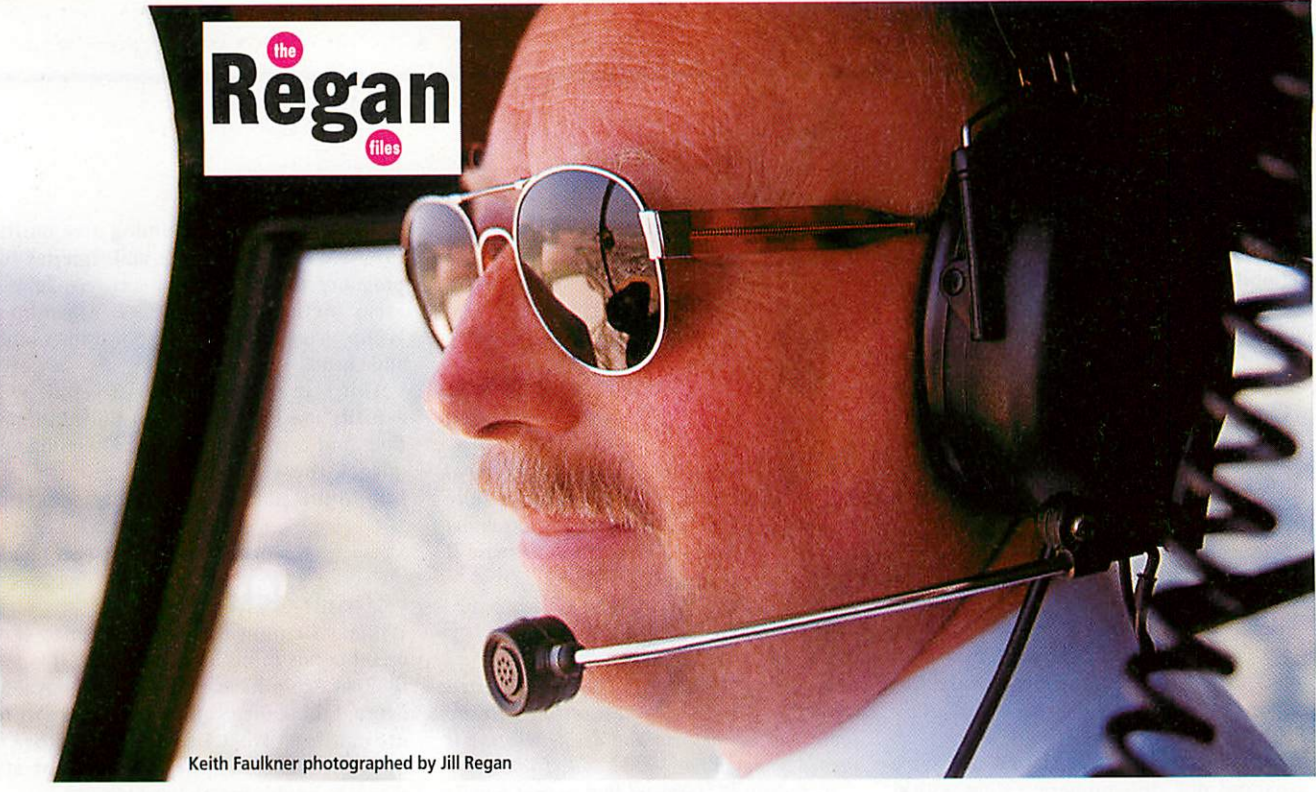
I consider this to be a ridiculous proposal. BUGS is perhaps the most unrealistic science fiction programme on television and regularly invents ludicrous technologies to achieve something highly improbable. If a Risc PC was featured on the show, it would almost certainly be used to do something the machine is completely incapable of doing and the machine itself would be virtually unrecognisable, anyway — I doubt they would use the standard RISC OS look. It would go completely unnoticed by people who do not use Acorns. In fact, starring in BUGS would lower Acorn's 'image' in many people's minds.

Apple tried *star quality* in the films *Independence Day* and, I believe, *Mission: Impossible*. Both these advertising events failed — the portable Apple computers were almost entirely different from their real counterparts; I can't quite imagine an Apple computer bringing down a spaceship, can you?

These attempts at subtle advertising invariably are thwarted one way or another. I cannot see a single benefit that would come out of Acorns being present in BUGS, or any other fictional show; I can think of an awful lot of bad things that could happen as a result, however.

Simon Jones
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Keith Faulkner photographed by Jill Regan

Life can be viewed as a series of worlds, each just waiting to be explored. Today I found myself in the whole new world of flying clubs. With amazing black and white photographs of planes adorning the wall, entering the club house makes me feel that I have just taken a step back to the 1940s when it was an RAF base.

I am interviewing Keith Faulkner. Keith and his wife Caroline are the co-owners of Alsystems. You may know them for their PowerTec range of products, or because they have supplied your school with Acorn computers.

When Keith asked to be interviewed, he offered to do it in a helicopter. What red-blooded journalist could resist? In a small, two-seater Robinson R22 helicopter, The Regan Files joined the mile-high club, figuratively speaking of course.

Although Keith only took up helicopter piloting earlier this year, he has 16 years experience of them in his previous action-man life in the RAF.

'I first joined the RAF after being kicked out of university,' Keith begins enthusiastically. 'I was reading Chemistry, but unfortunately I found other pleasures. I spent far too much time in the bar and ended up being a bread man delivering Mother's Pride, eating cream cakes on a Saturday'.

It was while Keith was doing this he discovered American Jeeps and bought an old Willis Jeep. At one point he was going to start a military vehicle museum; now that would have been a different story. But it did lead to someone suggesting that he should get a job in the RAF.

'I went to the RAF career office asking for *fitter propulsion*. I had not a clue what this was, but someone told me I would be good at it. The RAF told me there were no vacancies, but they noticed I had A levels and asked if I would like to be air crew, a load master. I took aptitude tests and at my interview, they asked me if I wanted to be a pilot. I thought this was a trick question, so I said no — it took me a few years to realise that it was not. To make up for it, I did get a commission later.'

It was after 16 years of dangling from the end of a winch attached to a helicopter, setting off on a morning not knowing if he would return, that Keith saw the appeal of an office job.

> **It is important for the Acorn community that Acorn dealers continue to exist and we have salaries to pay**

By this time Keith was already 'into computers' having bought a Sharp MZ 80 when he was leaving Germany, because it was duty free. Later he bought a BBC Micro and started a Computer Club at Odiham — where RAF helicopters are based.

'I asked my son, Steven, who suffered from Muscular Dystrophy what I should do, and he said: "Dad, do something where I can work for you." You see he was a bright lad and loved his Archimedes. So with this in mind I set up Alsystems.'

That was nine years ago, and it was good timing. Hampshire County Council needed a computer supplier for its schools. Alsystems got the tender and then won Devon and Berkshire.

'Steven my son died seven years ago,' explains Keith, calmly. 'When something like this happens to you, you have two choices: you either top yourself or throw yourself into your work. Caroline and I threw ourselves into the business. I was working twelve hours a days seven days a week. I have begun to ease off, only working five days these days. Gradually other things are coming into our lives. We have learnt to live for the day, so we drive a better car now.'

Recently Alsystems has come under criticism for charging £20/year for technical support. Keith justifies the decision:

'They say everyone else does it for free. I say yes, but it is important for the Acorn community that Acorn dealers continue to exist and we have salaries to pay. I think people have to realise that for businesses to exist they have to make money. Most of the calls we get are from people who are new to the technology and so need a lot of time to talk them through things. Quite often our engineer is on the phone to them for 20 minutes. In 20 minutes an engineer could have made £80 mending something on the workbench.'

'I love the Acorn market and want to stay in it as long as possible. I think the constructive criticism I get from the Acorn groups on the Internet is great. What is bad are the ill-informed who criticise products with no basis to their argument, except that they own a different one. Intellectual discussion is fine. I think it is more important than ever for the Acorn market to have a united front against the enemy'.

Jill Regan AU

Acorn World prices for all during November!

StrongArm RiscPCs

Picture by Walter Briggs using Studio24Pro

The cheapest way to buy the RiscPC of your choice. Let Pineapple install the upgrades you require into a basic StrongARM RiscPC and save money!

StrongARM RiscPC (233Mhz) (4Mb 1.2Gb HD) Base Price - £ 1099.00 inc vat

General Upgrades

CDRoms - (when bought with a RiscPC)

x8 speed CDRom	£ 50.00
x24 speed CDRom	£ 75.00

Harddrives - (exchange for RiscPC 1.2Gb HD)

1.7Gb Harddrive	£ 95.00
2.5Gb Harddrive	£ 119.00
3.2Gb Harddrive	£ 145.00
4.3Gb Harddrive (Fireball ST)	£ 179.00

Other sizes available - please ask

Backplanes

2 slot backplane	£ 34.00
2nd Slice (inc 4 slot backplane)	£ 89.00

RiscPC Memory

1Mb VRam	£ 80.00
2Mb VRam	£ 115.00
8Mb SIMM	£ 27.00
16Mb SIMM	£ 43.00
32Mb SIMM	£ 85.00

Other sizes available - please ask

PC Cards & Software

DX4-100 PC Card	£ 229.00
586-100 (Acorn) PC Card	£ 351.33
586-133 (CJE) PC Card	£ 360.00
PC Pro & PC Exchange	£ 49.95
Windows 95 (Installed for you)	£ 79.00

Monitors

Acorn 14" AKF60	£ 264.00
Acorn 17" AKF91	£ 639.00
Iiyama 17" 8617E	£ 515.00
Iiyama 17" 9017E Pro	£ 549.00
CTX 14"	£ 189.00
CTX 15"	£ 259.00
CTX 17" .28mm 30-70Khz	£ 449.00
CTX 17" .26mm 30-85Khz	£ 549.00

Internet

33,600 Ext Voice Modem BABT	£85.00
33,600 US Robotics Voice	£169.00
Ant Internet Suite software	£116.33

Pineapple Computer Offers

Special Computer deals during November!

We will be doing special deals on StrongARM 233Mhz RiscPCs during November. Come and see us on stand 64 at Acorn World, or 'phone us for details if you can't get along to the show!

Pineapple FREE gifts



With every new RiscPC you receive -
1 year subscription to the Virus Scheme.
Studio24 v1 Art & photo-retouch software.

20:20 Finance available on all RiscPCs (subject to status). 20% deposit and 20 monthly payments at 0%



Flatbed Colour Scanners

There are now a growing number of scanners which will work on RiscOS. Most of these need a SCSI interface though, so the Epson GT5000 parallel is still our most popular model.
A new inexpensive parallel port scanner which works just on the PCcard is now available at £169.00 !!
All our scanner prices include Twain and Imagemaster software. SCSI scanner prices do not include the SCSI connecting cable.

Epson GT5000 parallel	★ £289.00
Epson GT5000 SCSI	★ £349.00
Epson GT8500 par&SCSI	£449.00
Epson GT9500 par&SCSI	£549.00
Umax Vista S6E - SCSI	£269.00
Umax Astra - SCSI	£269.00
Agfa Snapscan - SCSI	£259.00
NEW - Trust (parallel) ★★★ (PC Card use Only)	£169.00

SCSI Cards & Cables

Cumana SCSI II Card	£189.00
EESOX SCSI II Card	£145.00
50 mini 'D' to 50 Centronics	£19.00
50 mini 'D' to 25 'D' plug	£19.00
25 'D' plug to 50 Centronics	£16.99
50 Centronics plug to plug	£15.99
50 Centronics plug to skt	£16.99

Switch Boxes

These are ideal for parallel port switching between a printer & scanner

Parallel 2 way	£16.99
Parallel 4 way	£19.99
25 'D' plug to 25 'D' plug	£4.99
25 'D' plug to 36 Centronics	£4.99

Monitor and keyboard switch boxes also available



Hard Drives

Pineapples removable drive system is available for both IDE and SCSI systems. It provides total data protection by removing the drive!

IDE mounting kit (inc cable)	£15.00
IDE removable case	£10.00
SCSI mounting kit (inc cable)	£19.00
SCSI removable case	£10.00

Bare IDE harddrives

1.2Gb IDE	£99.00
1.7Gb IDE	£125.00
2.0Gb IDE	★ £135.00
2.5Gb IDE	★ £145.00
3.2Gb IDE	★ £175.00
4.3Gb IDE (Fireball ST)	★ £209.00
4.3Gb IDE (Cyclone 5.25")	£199.00
5.1Gb IDE	£279.00
6.4Gb IDE (Fireball ST)	★ £299.00

IDE Expansion

x4 IDE Expansion card	£69.00

Bare SCSI harddrives

1.0Gb SCSI	£129.00
2.0Gb SCSI	★ £189.00
3.2Gb SCSI (Quantum ST)	★ £249.00
4.2Gb SCSI	★ £305.00

Studio24Pro

'Many Acorn User front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool' - *Acorn User Mar96*

Now just ★ £99.00 ★

Users note FREE update v2.16 is now available.



PAL TV Coders

We have a range of PAL TV coders available which allow the output of any Acorn Computer to be displayed on a normal TV or recorded onto a video recorder. All models have S-VHS as well as standard video outputs. Please ask for more details.

PLC/3 PAL Coder	★ £79.00
AVK/3 PAL Coder	£289.00
AVK/5 PAL Coder	£379.00
Monitor adapter 9-15pin	£4.11
Monitor adapter 15-9 pin	£4.11

Pineapples Virus Protection Scheme has been running for over five years and is still being updated with new viruses on a regular basis. New software versions are sent out to members every three months and the total number of viruses which can be removed is over 100.

Joining fee just £28.20

Inexpensive multi-user licences

'If you're interested in virus protection, join the Pineapple virus protection scheme and buy Killer. Accept no alternative - 'Acorn User Feb 96

As an Acorn Centre of Technology Pineapple Software can help you with ALL your Acorn computer related problems.



Colour Printers

Canon BJ30 - portable mono	£159.00
Canon BJC70 - portable col	£199.00
Canon BJC240 - promo pack	£169.00
Canon BJC620 - colour	£289.00
Canon BJC4200 - promo pack	£209.00
Canon BJC4550 (A3)	£364.00
Canon BJC5500 (A2)	£698.00
Epson Stylus 200 mono	£139.00
Epson Stylus 200 colour	£179.00
Epson Stylus Colour 400	£219.00
Epson Stylus Colour 600	£279.00
Epson Stylus Colour 800	£399.00
Epson Stylus Colour 1520 (A3)	£729.00
HP Deskjet 690C	£259.00
HP Deskjet 870C	£369.00
HP Laserjet 6L	£399.00

Other Items

Artworks video tutorial	★ £14.99
Casio QV10a Digital Camera	£376.00
Casio QV100 Digital Camera	£528.00
Sibelius 6 software	£180.95
Sibelius 7 Student	£493.50
Sibelius 7 software	£940.00
Studio24 version 1	£35.00
Acorn Netstation (Ethernet)	£467.00
Acorn Netstation (Modem)	£467.00
A7000 upgrade to A7000+	£249.00

We have many items in stock which are not shown in this advert. Please ask for anything you require which may not be shown. We also undertake repairs and upgrades to all Acorn computer models. Collection can be arranged if necessary.

Pineapple Software

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Essex IG3 9JS
Tel 0181 599 1476 Fax 0181 598 2343
email:- sales@pineaple.demon.co.uk
www:- http://www.pineaple.demon.co.uk

Terms:- All prices *include* 17.5% vat. Carriage £15 on computer systems. £5 on all other hardware. Other items free. Phone for quote outside UK.Official orders, cheques and all major credit cards accepted at no extra charge.

'Pineapple offer some of the finest and friendliest after sales support you will find' - Acorn User Mar 96

Why not come and visit us (easy parking) where you can see most of the Acorn range of computers and other hardware in action. Monday - Saturday 0900 - 1730

